

# Marine Fisheries Census 2010 India



**Department of Animal Husbandry, Dairying & Fisheries**  
Ministry of Agriculture, Government of India, New Delhi

**Central Marine Fisheries Research Institute, Kochi**  
Indian Council of Agricultural Research, New Delhi



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PART I

# Marine Fisheries Census 2010

## India



**Government of India**  
**Ministry of Agriculture**  
**Department of Animal Husbandry, Dairying & Fisheries**  
**Krishi Bhavan, New Delhi**



**Central Marine Fisheries Research Institute, Kochi**  
**(Indian Council of Agricultural Research, New Delhi)**







शरद पवार  
SHARAD PAWAR



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कृषि एवं खाद्य प्रसंस्करण उद्योग मंत्री  
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MINISTER OF AGRICULTURE &  
FOOD PROCESSING INDUSTRIES  
GOVERNMENT OF INDIA

15 FEB 2012

## MESSAGE

Fisheries sector plays an important role in the socio-economic development of the country. Apart from generating income & employment and providing nutrition to a large section of the economically backward population, it generates a substantial amount of foreign exchange through exports. Over the decades, the marine fisheries sector has undergone significant improvements in craft and gears, storage and transport facilities, communication techniques and so on. The annual marine fish production in the country has already crossed three million metric tones.

Information on fishermen population, infrastructural facilities and other important facts need to be collected on a regular basis for planning developmental activities and research related to this sector. It gives me pleasure to know that the Department of Animal Husbandry, Dairying and Fisheries in my Ministry has initiated the Marine Fisheries Census for the second time through Central Marine Fisheries Research Institute in 2010. I appreciate the efforts of the CMFRI in consultation and with the financial support of the Department in conducting the marine fisheries census and bringing out this publication. I trust this publication will be useful to planners, policy makers, researchers and all other stakeholders.

(SHARAD PAWAR)

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## PREFACE



**M**arine fishery resources are renewable and management of the harvest of marine fishery resources is necessary for sustained production from the sea. Towards this it is very much essential to have reliable and updated knowledgebase with information on status of marine fishery resources, socio-economic status of fisherfolk and infrastructure facilities existing in fishing villages. For generating such information the Central Marine Fisheries Research Institute (CMFRI), Cochin has been periodically conducting frame surveys. The first marine fisheries census was conducted by CMFRI in 1980. With the support of Ministry of Agriculture, the second marine fisheries census on all India basis was conducted during 2005. Dynamic changes have taken place in the fishery and there were many management interventions introduced by the state and central governments from time to time. Changes have also taken place in the crafts and gear, fisherfolk population structure, availability of resources and their spread, infrastructure facilities, educational status etc.

In view of the dynamic nature of the marine fisheries sector the policies and interventions need to be reviewed periodically. Reliable updated real time data on different aspects of marine fisheries is very much essential for developing suitable policies and interventions. The Department of Animal Husbandry Dairying and Fisheries (DAHDF), Ministry of Agriculture, Government of India during the 11th five year plan has taken up a central sector scheme on “Strengthening of database and Geographical Information System for fisheries sector” with census on marine fisheries as one of the components which was assigned to CMFRI considering the expertise and experience of CMFRI in conducting the massive census on all India basis, for the third time.



Frame for the census survey, the list of marine fishing villages for different maritime states and union territories, was updated with the most recent information received from the respective state fisheries departments. This information was validated by conducting a pre-census survey. In addition to the task of selection of enumerators for the conduct of census operation, information on number of households in each village was also collected during the pre-census survey. The necessary schedules for collection of information from marine fishermen households were developed by conducting workshops at CMFRI headquarters and finalized after discussion in similar workshops held at regional/research centers of CMFRI. The data collection schedules so developed were approved by the Technical Monitoring Committee set up by the DAHDF. Workshops and trainings were also conducted at different locations for the field level supervisors and enumerators regarding the filling up of different schedules. Instructions were also prepared and distributed to field level supervisors and enumerators on each item of entry in the schedules. The census was carried out through 2074 enumerators in 3,288 marine fishing villages and information from 8,64,550 households were collected. The entire operation was carried out under the supervision at different levels by the scientists and technical staff of CMFRI. The schedules used for enumeration were bilingual, both in English and local language.

The final report is in two parts, Part I with information at national level and Part II is for each of the maritime states separately. The scope, time frame, parameters, definitions, type of schedules etc. are described in Part I.

It is my pleasure to use this opportunity to thank the Animal HF and the Indian Council of Agricultural Research (ICAR) for having trust in CMFRI in its ability to take up the arduous task of carrying out the National Marine Fishery Census 2010. At this juncture I take the opportunity to thank the DAHDF for accepting the CMFRI national marine fisheries data (after reconciliation with states) as the official data of Government of India. I thank the state fisheries department for extending all the supports for the successful conduct of census. The sincere and hard work carried out by Fishery Resource Assessment Division staff need special mention and I thank each one of them. Special thanks are due for all the scientific, technical and administrative staff who were involved in one way or other in the conduct of census. I am sure that this report will be of enormous utility to all associated with the development of marine fisheries in the country.



**(G. Syda Rao)**

CMFRI  
Kochi

Director, CMFRI & National Co-ordinator,  
National Marine Fisheries Census, 2010.

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# EXECUTIVE SUMMARY

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Information on the socioeconomic status of fisherfolks and infrastructural facilities in fishing villages are of equal importance as the information on the harvest of different marine fishery resources. The status of the harvest of different marine fishery resources as well as details regarding fishing craft and fishing gear used in fishery, number of fishing villages and landing centers, fishermen population, their educational and occupational status etc. are necessary for planners and researchers for developing marine fisheries policy and formulation of developmental plans for the marine fisheries sector. Such information collected periodically will be useful to examine the impact of development programmes implemented during a plan period. Also, it acts as the basic sampling frame for the sample survey regularly carried out by the Central Marine Fisheries Research Institute (CMFRI) for estimation of marine fish landings in the country.

With this objective, CMFRI has been conducting such frame surveys periodically. The first planned survey of marine fishing villages and marine fish landing centers was carried out by CMFRI during 1948-49 which yielded information on fishing seasons, village wise total fishermen population, number of active fishermen, fishing units of different types and varieties of fish caught. Successive surveys were carried out by CMFRI during 1957-58, 1961-62 and 1973-77. The results of the survey conducted during 1973-77 was published in the CMFRI publication "Marine Fisheries Information Service" (MFIS), No.3 in 1978. Information on number of mechanized boats, categories of fishing craft and fishing gear were also published in this. A systematic marine fisheries census was carried out by the institute in 1980 covering all maritime states except Maharashtra, within a period of less than a month. In this census, micro level information on different aspects of marine fisheries were collected and it covered 2,132 marine fishing villages, 1,442 landing centres and 333,038 households. Data was collected through schedules employing about 1500 contact persons under the supervision of 165 staff of CMFRI. Results of this census were published in MFIS No.30, in 1981. After a gap of 25 years, the last Marine Fisheries Census was conducted in 2005 under funding from the Department of Animal Husbandry Dairying and Fisheries (DAHDF), and the Ministry of Agriculture. About 185

staff of CMFRI supervised this census employing 1,492 enumerators covering 3,202 marine fishing villages, 1,332 marine fish landing centres and 756,212 households. It generated wealth of information on various aspects of marine fisheries in India which was published in different reports. In addition to this report, there were detailed reports for each of the maritime states.

The marine fisheries census 2010 was carried out by CMFRI as the component 'Census on marine fisheries' of the 11<sup>th</sup> plan central sector scheme of DAHDF entitled "Strengthening of Database and Geographical Information System for Fisheries Sector" with a budget allocation of ₹163.5 lakhs. The basic frame for planning the census was the list of marine fishermen villages obtained from the respective state fisheries departments which were verified, validated and updated through field visits by the staff of CMFRI. The states and union territories covered in the census were West Bengal, Odisha, Andhra Pradesh, Tamil Nadu, Kerala, Karnataka, Goa, Maharashtra, Gujarat, Puducherry, Daman and Diu. The necessary schedules for the census operation were developed, designed and printed in eight regional languages, namely Gujarati, Marathi, Kannada, Malayalam, Tamil, Telugu, Odiya and Bengali, in addition to English and Hindi. There were mainly three types of schedules with sub schedules under each. Schedule I was designed to collect information on fishermen family, education, occupation and ownership of crafts and gears. Schedule-II was pertaining to infrastructure facilities available in different marine fishing villages and it had sub categories for collecting details of fishing harbour, boat building/repairing yards, ice factories/cold storages freezing/canning plants, curing yards/peeling sheds and extraction/fish meal plants. Schedule-III was designed to collect landing centre/fishing harbour-wise information on fishing crafts and gears existing in the fishery. Before implementation of the census operation, technical workshops were conducted on two occasions in different research/regional centers of CMFRI for training the field level supervisors on the conduct of the actual census operation.

A pre-census survey was conducted during 15-28 February 2010 for validation of list of marine fishermen villages and marine fish landing centres and also to collect information on number of households in each marine fishing village. Enumerators for collecting information from households were identified during the pre-census survey. They were given hands on training few days prior to the census operation. During census operation, 2,074 enumerators were deployed for collecting information from 864,550 house holds.

The actual census operation was held during 16 April - 15 May 2010 with the formal inauguration of the National Marine Fisheries Census 2010 by Ms. Leena Nair IAS, Chairperson, Marine Products Export Development Authority, at CMFRI, Kochi on 19th April 2010. Director, CMFRI was the National Co-ordinator for the conduct of the census, and he was assisted by the Head, Fishery Resources Assessment Division and Scientists-in-charge of different Regional/Research Centres of CMFRI. The information collected in different schedules was brought to CMFRI headquarters at Kochi and scrutinized before digitization. Necessary computer software was developed in-house and data entry and digitization of collected information were carried out during October 2010 - March 2011. Information was stored in MS Access database and periodically backed up in an IBM server and also on magnetic tapes. Preliminary analysis and tabulation was done by developing queries in MS Access. Final validation workshops were conducted at different Regional/Research centres of CMFRI during October – November 2011 for validation of information collected on crafts and infrastructure facilities.

There were 3,288 marine fishing villages and 1,511 marine fish landing centres in 9 maritime states and 2 union territories. The total marine fisherfolk population was about 4 million comprising in 864,550 families. Nearly 61% of the fishermen families were under BPL category. The average family size was 4.63 and the overall sex ratio was 928 females per 1000 males. Almost 58% of the fisherfolk were educated with different levels of education. About 38% of marine fisherfolk were engaged in active fishing with 85% of them having full time engagement. About 63.6% of the fisherfolk were engaged in fishing and allied activities. Nearly 57% of the fisherfolk engaged in fish seed collection were females and 43% were males. Among the marine fishermen households nearly 76% were Hindus, 15% were Christians and 9% were Muslims. The overall percentage of SC/ST among the marine fishermen households was 17%. Nearly 32% of the adult fisherfolk had memberships in co-operatives. Among the marine fishermen households 131,012 families were having life saving equipments. In the marine fisheries sector, there were 194,490 crafts in the fishery out of which 37% were mechanized, 37% were motorized and 26% were non-motorized. Out of a total of 167,957 crafts fully owned by fisherfolk, 53% were non-motorized, 24% were motorized and 23% were mechanized. Among the mechanized crafts fully owned by fishermen, 29% were trawlers, 43% were gillnetters and 19% were dolnetters.





# MARINE FISHERIES CENSUS 2010

## MAIN FEATURES

### Setting

The Department of Animal Husbandry Dairying and Fisheries (DAHDF), Ministry of Agriculture in their eleventh five year plan central sector scheme on “Strengthening of Database and Geographical Information System for the Fisheries Sector” included marine fisheries census as one of the components and entrusted the task of conducting marine fisheries census of the main land to CMFRI, Kochi realizing the experience and expertise available with CMFRI. Census of island territories of Andaman & Nicobar and Lakshadweep was entrusted with the Fishery Survey of India. The information generated through census will go to the national database and will be very much useful to planners, researchers and managers in the marine fisheries sector.

The mammoth exercise of marine fisheries census was conducted by CMFRI during 16<sup>th</sup> April - 15<sup>th</sup> May 2010 covering 3,288 marine fishing villages distributed in 9 maritime states and union territories of Puducherry, Daman and Diu by deploying 2074 enumerators. The total budget provision was ₹ 163.5 lakhs and information on various aspects were collected from 864,550 marine fishermen households using three different categories of schedules.

### Scope

Marine capture fisheries sector of India, has often been challenged by the paradox of subsistence and large scale entrepreneurship co-existing, often vying with each other, in the same geo-social canvas. With the ownership pattern of holdings in the fisheries sector fast outgrowing the traditional confines of the occupation, a comprehensive enumeration of the demarcated fishing villages alongside the infrastructure, human resources and post-harvest facilities as concomitant information is the need of the planners and the state. Hence this census exercise as reported here is all pervasive of the socio-economic, educational, holding pattern of inhabitants of the identified fishing villages, who are involved in

core fishing or fishing related vocation and it records the information with the granularity of household (family). By design this exercise is supposed to collate all relevant information pertaining to fisheries with the fishermen families as the pivot. As the entire spectrum of Indian marine fisheries and its inventorization is done from the fishing village point of view, the enumerated parameters may have to be viewed in that backdrop. However for information on crafts in the fishery a separate list originating from each and every landing point is provided. Planning needs a judicious juxtaposition of these two expoundings.

## **Objectives**

The 2010 marine fisheries census was carried out with the following objectives.

- To determine fishermen population size and structure at micro level
- To assess the educational, socio-religious status of fisherfolk
- To obtain occupational status of fishermen
- To determine active fishermen engaged in fishing
- To determine gender-wise occupation in fishing allied activities
- To determine the number of craft and gear owned by fisherfolk
- To quantify the number of craft and gear in the fishery
- To obtain information on existence of infrastructure facilities
- To obtain information on other utilitarian facilities and social aspects

## **Reference Period**

The reference period for marine fisheries census 2010 is 16<sup>th</sup> April to May 15<sup>th</sup> 2010.

## **Methodology**

The basic frame for the conduct of census is the list of marine fishing villages in different maritime states and union territories in the country. The list of marine fishing villages available with CMFRI was updated with the latest information received from the respective state fisheries departments. Further, this was validated in the pre-census field survey conducted during February 2010 and information on number of households in each village was also collected. Enumerators were identified and selected locally and micro level information from each household was collected during the census operation using different data



collection schedules. The enumerators were trained prior to the census data collection and were under strict supervision of field and district level supervisors during data collection. Only those households that fell under the definition of marine fishermen household were covered in the census. Information on crafts in the fishery and infrastructure facilities was collected directly by the field level supervisors. As the enumerators were from the same village and better acquainted with the local situation non-sampling errors due to non-response could be reduced to the minimum. Supervision of data collection at different levels also resulted in reducing the non-sampling errors to minimum.

## Organization

The organization structure for Marine Fisheries Census 2010 is given below:



Supervision of census data collection was carried out at different levels. The overall co-ordination was vested with the national co-ordinator with assistance from the project leader. The in-charges for east and west coasts helped the project leader for overall supervision of census. The regional in-charges were responsible for co-ordinating the census operation in the states belonging to their region. Scientists-in-charge of different regional and research stations of CMFRI were designated as the state-in-charge for conduct of census in different maritime states and they supervised the census operation with the assistance of district level supervisors. Immediate supervision of data collection by the enumerators was done by the field level supervisors who had expertise in data collection from the field.

## Designing of Schedules

Fishery Resources Assessment Division (FRAD) of CMFRI was primarily responsible for designing the schedules for data collection. The final schedules were prepared after brain storming sessions in the Institute in which Heads of different divisions, Scientist-in-charges of regional/research centres and other scientists made their contribution. Following are the descriptions of three categories of schedules used in the census.

- ▶ Schedule - I (Household details)
- ▶ Schedule - II (Infrastructure facilities in fishing villages)
- ▶ Schedule - II (Form-II(a) (Details of fishing harbour)
- ▶ Schedule - II (Form-II(b) (Details of Boat building/repairing yard)
- ▶ Schedule - II (Form-II(c) (Details of Ice Factories/Cold Storages)
- ▶ Schedule - II (Form-II(d) (Details of Freezing/Canning Plants)
- ▶ Schedule - II (Form-II(e) (Details of Curing Yards & Peeling sheds)
- ▶ Schedule - II (Form-II(f) (Details of Extraction Plants/Fish Meal Plants)
- ▶ Schedule - III (Harbours/ Jetties/ Landing Centre based fishing craft data)

## Training of supervisors

Training workshops were conducted by scientists and senior technical staff of FRAD at various regional/research centres of CMFRI for training different levels of supervisors. For the supervisors of Kerala, Karnataka and Goa such training workshop was held during 23<sup>rd</sup> - 25<sup>th</sup> November, 2009 at CMFRI, Kochi, for Maharashtra and Gujarat training workshop was held during 30<sup>th</sup> November - 2<sup>nd</sup> December, 2009 at Mumbai, for Tamil Nadu and Puducherry training workshop was held during 3<sup>rd</sup> - 5<sup>th</sup> December, 2009 at Chennai and for West Bengal, Orissa and Andhra Pradesh training workshop was held during 30<sup>th</sup> November - 2<sup>nd</sup> December, 2009 at Visakhapatnam. Similar training workshops were held for the second time during 15<sup>th</sup> - 23<sup>rd</sup> March, 2010 at CMFRI, Kochi, Regional/ Research centres and two Field Centres of CMFRI.

## Engagement of enumerators and their training

For the conduct of marine fisheries census, 2,074 enumerators were engaged for a period of one month. They were with minimum higher secondary level of education and were drawn mostly from the respective fishing villages. The

enumerators were trained by the field level supervisors few days prior to the actual census operation. Printed instruction manuals in vernacular languages describing different items covered in the schedules were also provided to the enumerators for reference during data collection.

### **Publicity and Media coverage**

Sufficient coverage in print and visual media was given about the marine fisheries census programme. Publicity materials in local languages were also distributed in the marine fishing villages for awareness among fisherfolk.

### **Launch of census operation**

The formal inauguration of the National Marine Fisheries Census 2010 was done by Ms. Leena Nair IAS, Chairperson, Marine Products Export Development Authority (MPEDA), in a brief function held at CMFRI, Kochi on 19<sup>th</sup> April 2010 in the presence of Dr. G. Syda Rao, Director, CMFRI, Dr. E.G. Silas, Former Vice Chancellor (KAU) and Former Director, CMFRI and Dr. K. Gopakumar, Former Deputy Director General (Fisheries), ICAR.

### **Data digitization, validation, processing and report publishing**

On completion of the census operation, all the schedules with collected information were brought to CMFRI headquarters at Kochi and scrutinized for consistency and completeness before digitization. Computer software was developed in-house for data entry, storage and retrieval. Data entry and digitization of information in schedules were carried out during October 2010 to March 2011 using the developed software. All the information were stored in MS Access database and stored in an IBM server and also on magnetic tapes. Preliminary analysis and tabulation was done by developing queries in MS Access. Different tables were generated and validated as necessary. Final validation workshops were conducted at different research/regional centres of CMFRI during October – November 2011 for validation of information collected on crafts and infrastructure facilities. Village wise, taluk wise, district wise and state wise tables were prepared on each items for creation of final reports.

## Census items and definitions

### Items

- ☐ Head of fishermen family
- ☐ Poverty line
- ☐ Religion
- ☐ SC/ST
- ☐ Family size (genderwise adults and children)
- ☐ Occupational status
  - ▶ Actual fishing (full time/part time)
  - ▶ Fish seed collection
  - ▶ Fishing associated activities (genderwise marketing, net making/repairing, peeling, labours etc.)
- ☐ Identity
- ☐ Type of house
- ☐ Community / Caste
- ☐ Traditional fishermen
- ☐ Educational status
- ☐ Aquaculture practices (type of culture, area, members involved etc.)
- ☐ Life saving equipments
- ☐ Communication/electronic gadgets
- ☐ Membership in co-operatives
  - ▶ Fisheries
  - ▶ Others
- ☐ Fishing craft ownership
- ☐ Mechanized (Type and length of craft and sharing percentage)
  - ▶ Trawler
  - ▶ Pursesainer
  - ▶ Ringseiner
  - ▶ Others
  - ▶ Gillnetter
  - ▶ Dolnetter
  - ▶ Liner
- ☐ Motorized (Type and length of craft and sharing percentage)
  - ▶ Catamaran
  - ▶ Plank built boat
  - ▶ Fibre glass boat
  - ▶ Carrier boat
  - ▶ Others
  - ▶ Dugout canoe
  - ▶ Plywood boat
  - ▶ Ferro cement boat
  - ▶ Teppa

☐ Non-motorized (Type and number of craft owned)

- |                |                   |
|----------------|-------------------|
| ▶ Dugout canoe | ▶ Catamaran       |
| ▶ Plank built  | ▶ Ferro cement    |
| ▶ Thermocol    | ▶ Outrigger canoe |
| ▶ Masula boat  | ▶ Others          |

☐ Fishing gear ownership (Type and number of gears owned and sharing percentage)

- |               |  |
|---------------|--|
| ▶ Trawl net   | ▶ Gill net                               |
| ▶ Drift net   | ▶ Ring seine                             |
| ▶ Purse seine | ▶ Boat seine                             |
| ▶ Bag net     | ▶ Shore seine                            |
| ▶ Cast net    | ▶ Hooks & lines                          |
| ▶ Troll lines | ▶ Fixed nets (Chinese dipnets/stakenets) |
| ▶ Traps       | ▶ Scoop net                              |
| ▶ Others      |  |

☐ Fishing villages & infrastructure

- ▶ Area of the fishing village
- ▶ Population in the village
- ▶ Fishermen population in the village
- ▶ Infrastructure facilities
- ▶ Availability of drinking water, electricity, road connectivity, educational institutions, hospitals, police station, post office etc.
- ▶ Boat building/repairing yards, ice factories, cold storages, freezing / processing plants, curing yards, peeling sheds, extraction plants, fish meal plants etc.

☐ Fishing craft in the fishery

- ▶ Mechanized, motorized and non-motorized
- ▶ Type and number of craft
- ▶ Range of length and horse power of craft
- ▶ Materials used for the construction of craft

## Definitions

**Fishing Village:** An assemblage of houses / dwelling place where marine fishermen live, which is recognized by state fisheries department. A settlement of households which comes under a separate village-panchayat is a Hamlet.

**Fish landing centre:** The place or harbour where fishermen land their craft with catch.

**Household:** A household consists of a person or a group of persons who live together in the same house (pucca/kutcha), share the same house-keeping arrangements and are catered as one. It is important to remember that members of a household are not necessarily related (by blood or marriage) as, for instance, maidservants may form part of household. On the other hand, not all those related in the same house are necessarily members of the same household, two brothers while living in the same house with their wives and children may or may not form separate households depending on their catering arrangements. Thus, in many cases, a house may be broken into separate households (families).

**Marine fisherman:** A person who is engaged in marine fishing or any other activity associated with marine fishery or both (A person here means a man or a woman).

**Traditional fishermen:** Those who are fishermen by birth and fishing is their ancestral occupation.

**Fishermen family:** A family in which at least one member is engaged in marine fishing or associated activities or both.

**Pucca/Kutcha house:** A pucca house is one, which has walls made of burnt bricks, stones (packed with lime or cement), cement concrete, timber etc. and roof made of tiles, galvanised corrugated iron sheets, asbestos cement sheet, reinforced brick concrete, reinforced cement concrete and timber etc. Any structure other than Pucca house is termed as Kutcha house.

### Family size:

- ☐ Adult refers to a person who has attained the age of 15.
- ☐ Children refers to those who are below 15 years of age.



### Occupation:

- ☐ **Full Time** refers to involvement of at least 90% of the fishable duration in a calendar year.
- ☐ **Part time** includes those fishermen who spend less than 90% of the fishable duration in a calendar year.
- ☐ **Actual Fishing:** Adult male members in the family engaged in fishing activities in full time or part time.
- ☐ **Fish seed collection:** Adult male/female members in the family involved in full time/part time fish seed collection.
- ☐ **Fishing Associated Activities:** Adult members in the family (both male and female) engaged in marketing of fish, making/repairing net, labourer etc. (labourer includes head load workers, helpers etc. at the landing centres) and other fishing associated activities such as auctioneers, ice breakers, members involved in collection of bivalves, other shells, seaweed, ornamental fish etc.

### Education:

- ☐ **Primary** refers to schooling completed/continuing up to standard V.
- ☐ **Higher secondary** refers to schooling completed / continuing between standard VI and XII.
- ☐ **Above higher secondary** refers to schooling completed / continuing above standard XII or Diploma/ITI/Vocational Higher Secondary Course.

**Mechanized craft :** Any craft with engine permanently fitted to the hull, which uses machine power for propulsion/fishing operation like casting and pulling the net, operating lines etc. is identified as mechanized craft.

**Motorized craft :** Any craft that has an engine fitted temporarily outside the craft which is used only for propulsion and not for fishing operation is identified as motorized craft.

**Non-motorized craft :** Any craft that does not use any engine for fishing operation is identified as non-motorized craft.



# SUMMARY

## Population

- There were 3,288 marine fishing villages distributed among the nine maritime states and the union territories of Puducherry and Daman & Diu, out of which 813 (24.7%) were in Odisha, 573 (17.4%) were in Tamil Nadu and 555 (16.9%) were in Andhra Pradesh.
- There were 1,511 marine fish landing centres in the country of which 407 (26.9%) were in Tamil Nadu, 353 (23.3%) in Andhra Pradesh and 187 (12.4%) in Kerala.
- There were 864,550 marine fishermen households in the country in which 192,697 were in Tamil Nadu, 163,427 in Andhra Pradesh and 118,937 in Kerala. Among the marine fishermen households 789,679 (91.3%) were traditional fishermen families.
- Nearly 61% of the marine fishermen families in the country (523,691) were Below Poverty Line (BPL).
- The total marine fisherfolk population in the country was 3,999,214 with Tamil Nadu, Kerala and Odisha accounting for 20.1%, 15.3% and 15.1% respectively.
- Among the marine fishermen population 33.6% were adult males, 31.9% adult females, 5.6% male children upto 5 years of age, 5.2% female children up to 5 years of age, 12.7% male children above 5 years of age and 11.0% were female children above 5 years of age.
- The overall sex ratio was 928 females per 1000 males and this was below thousand for all the maritime states. The sex ratio was maximum in Puducherry (982) and minimum in West Bengal (865).
- The average family size for the fishermen households was 4.63 with a maximum of 5.45 for Karnataka and a minimum of 3.70 for Andhra Pradesh.

## Education

- About 57.8% of the fisherfolk were educated with different levels of education.
- Among the fisherfolks nearly 15.0% of the males and 13.9% of the females had primary level of education.

- About 13.2% of the males and 10.9% of the females had higher secondary level of education.
- Nearly 2.7% of the males and 2.0% of the females had above higher secondary level of education.
- Among the fisherfolks about 42.2% were unschooled of which 21.0% were males and 21.2% females.
- The percentage of unschooled among marine fishermen was as high as 65.7% in Andhra Pradesh. The percentage of educated fisherfolk was maximum for Goa (86.0%) followed by Kerala (72.5%).
- Nearly 44.2% of the females and 40.4% of the males were unschooled.

### Occupation

- Nearly 37.8% of the marine fisherfolk were engaged in active fishing with 83.4% of them having full time engagement.
- About 2.4% of the fisherfolk were engaged in fish seed collection of which 54.4% were fulltime and 45.6% part time.
- Tamil Nadu accounted for the maximum number of active fishermen (21.6%) followed by Odisha (16.4%) and Andhra Pradesh (15.2%). Among the maritime states, Goa had the minimum contribution towards active fishermen (0.2%).
- About 61.1% of the fisherfolk were engaged in fishing and allied activities and this was maximum for Andhra Pradesh (76.2%) and minimum for Kerala (45.8%).
- About 23.4% of the fisherfolk were engaged in fishing allied activities and this was maximum in Maharashtra (41.8%) and minimum in Tamil Nadu (12.8%).
- Nearly 57.4% of the fisherfolk engaged in fish seed collection were females and 42.6% males.
- Among the fisherfolks engaged in fishing allied activities 36.5% were engaged in marketing of fish, 32.6% were working as labourers and 14.2% were engaged in making and repairing of net.
- Nearly 81.8% of the fisherfolks engaged in marketing of fish were women.
- About 88.1% of the fisherfolk engaged in curing and processing were women.

- About 89.6% of the fisherfolk engaged in peeling were women.
- Fisherfolk engaged in marketing of fish was maximum in Maharashtra (45,971; 20.6%) followed by Andhra Pradesh (39,324; 17.6%), Tamil Nadu (37,440; 16.8%) and Odisha (32,637; 14.6%).
- Fisherfolk engaged in making and repairing of net was maximum in West Bengal (18,419; 21.2%) followed by Odisha (17,872; 20.6%) and Maharashtra (14,477; 16.7%).
- Among the fisherfolk engaged in curing and processing maximum was in Andhra Pradesh (16,848; 31.5%) followed by Maharashtra (9,554; 17.9%) and Odisha (8,492; 15.9%).
- Among the fisherfolk engaged in peeling maximum was in Kerala (9,817; 31.0%) followed by Maharashtra (6,493; 20.5%) and Gujarat (4,550; 14.4%);
- Fisherfolk engaged as labourer was maximum in Andhra Pradesh (64,141; 32.2%) followed by Maharashtra (28,873; 14.5%) and Odisha (27,707; 13.9%).

## Religion

- Among the marine fishermen households 75.47% were Hindus, 15.21% Christians and 9.28% Muslims.
- Hindus were the dominant religion among marine fishermen households in all the maritime states and union territories except Kerala.
- In Kerala, Christians formed the dominant religion (42.7%) among the marine fishermen households followed by Hindus (29.0%) and Muslims (28.3%).
- In Gujarat and Daman & Diu the marine fishermen families belonged to Hindu and Islam religions only.

## Scheduled Casts and Scheduled Tribes

- The overall percentage of SC/ST among the marine fishermen households was 16.6%.
- There were no SC/ST marine fishermen households in Goa.
- Among the maritime states, Orissa and West Bengal had 59.3% and 54.8% of the fishermen households belonging to SC/ST.
- Among the marine fishermen households the percentage of households belonging to SC/ST were very less in Puducherry, Andhra Pradesh, Daman & Diu and Kerala.

## Membership in co-operatives

- Nearly 32% of the adult fisherfolk had memberships in co-operatives in which 22.1% had memberships in fisheries co-operatives and 9.9% had memberships in other co-operatives.
- Maximum number of fisherfolk with memberships in fisheries co-operatives was in Tamil Nadu (43.9%) followed by Kerala (21.6%) and Maharashtra (9.8%).

## Fishermen families engaged in Aquaculture

- Among the marine fishermen households 15,674 families were engaged in different aquaculture practices. There were 7,469 fishermen families who received training in aquaculture.
- Among those practicing aquaculture 45.2% were engaged in fish culture, 42.0% in prawn culture, 5.9% in crab culture and 2.0% in mussel culture.
- Fisherfolks engaged in fish culture were maximum in West Bengal (55.7%) and Odisha (31.0%).
- Fishermen families engaged in prawn culture were maximum in Andhra Pradesh (72.1%), Odisha (12.5%) and West Bengal (8.1%).
- Fishermen families engaged in crab culture were mainly in Andhra Pradesh (57.1%), Maharashtra (19.2%) and Odissa (18.7%).
- Fishermen families engaged in mussel culture were restricted to Kerala (98.4%) and Karnataka (1.6%).

## Life saving and electronic equipments

- Among the marine fishermen households 131,012 families were having life saving equipments.
- There were 18,539 fishermen households owning GPS which was used while fishing.
- Among the fisherfolks 279,239 households were having mobile phones for communication.

## Craft in the fishery

- In the marine fisheries sector there were 194,490 crafts in the fishery out of which 72,559 (37.3%) were mechanized, 71,313 (36.7%) motorized and 50,618 (26.0%) non-motorized.



- Gujarat (18,278), West Bengal (14,282), Maharashtra (13,016) and Tamil Nadu (10,692) accounted for 77.5% of the mechanized crafts in the fishery.
- Out of 35,228 trawlers in the fishery, Gujarat accounted for the maximum (32.9%) followed by Tamil Nadu (16.4%), Maharashtra (15.9%) and Kerala (10.4%).
- Nearly 27.9% of the total Gillnetters (20,257) operating in the fishery were in West Bengal followed by Gujarat (20.4%), Tamil Nadu (19.9%) and Maharashtra (14.6%).
- Dolnetters were mainly operated in West Bengal (5,137), Maharashtra (3,973) and Gujarat (2,571).
- Liners (1,158) were operated mainly in West Bengal (54.6%), Tamil Nadu (32.8%) and Odisha (9.7%).
- Ring seiners (988) were operated mainly in Kerala (50.1%), Tamil Nadu (31.0%) and Andhra Pradesh (18.4%).
- Purseiners were operated in Maharashtra (435), Karnataka (422), Goa (296) and Kerala (60) only.
- About 87.9% of the motorized crafts in the fishery were accounted by Tamil Nadu (35.0%), Kerala (15.7%), Andhra Pradesh (15.1%), Gujarat (11.6%) and Karnataka (10.5%).
- The non-motorized sector was mainly concentrated in Andhra Pradesh (35.2%), Tamil Nadu (20.6%), Kerala (11.6%) and Odisha (9.2%).
- Nearly 72.4% of the non-motorized crafts were operated along the east coast.
- About 57.6% of the mechanized crafts were operated along the west coast.
- Almost 57.7% of the motorized crafts were operated along the east coast.

### **Craft/Gear owned by the fisherfolk**

- Out of a total of 167,957 crafts owned by fisherfolk 52.6% were non-motorized, 24.2% motorized and 23.1% mechanized.
- Among the mechanized crafts owned by fishermen 28.9% were trawlers, 42.8% gillnetters and 19.1% dolnetters.

- Among the motorized crafts owned by fisherfolk 60.3% were fibre glass boats, 12.5% plywood boat, 10.3% plank built boats and 8.9% were catamaran.
- Among the non-motorized crafts owned by fisherfolk 54.3% were plank built boats, 25.4% catamaran and 9.8% dugout canoes.
- Out of 11,247 mechanized trawlers owned by fisherfolks 30.5% belonged to Gujarat, 27.1% to Tamil Nadu and 9.9% to Maharashtra.
- West Bengal (21.3%), Tamil Nadu (18.4%), Maharashtra (18.0%), Gujarat (17.8%) and Odisha (14.8%) accounted for the mechanized gillnetters (16,642) owned by fishermen.
- Nearly 60.8% of the total mechanized dolnetters (7,414) owned by fisherfolk belonged to Maharashtra followed by Gujarat (29.2%) and West Bengal (7.8%).
- Out of 24,544 outboard fibre glass boats owned by fisherfolk 48.0% belonged to Tamil Nadu, 21.1% to Gujarat and 10.6% to Andhra Pradesh.
- Nearly 32.4% of the 48,023 non-motorized plank built boats owned by fisherfolk were in Odisha, 26.8% in Andhra Pradesh and 13.9% in West Bengal.
- About 41.5% of the 22,419 non-motorized catamarans belonged to Andhra Pradesh, 40.0% to Tamil Nadu and 8.1% to Kerala.
- Almost 27.1% of the 8,654 non-motorized dugout canoes belonged to Maharashtra, 24.9% to Karnataka and 14.2% to Odisha.

### Other salient features

- An increase of around one lakh fishermen families was noticed in 2010 as compared to 2005. Part of this increase would be attributable to the addition of two districts of West Bengal under the fishermen census purview.
- In all, around 6.4 lakh fisher families did not possess any kind of craft, 5.21 lakhs were without any fishing gear and around 5.0 lakhs had neither. These are increments to the tune of 13%, 12% and 11% over the respective fishermen census 2005 figures.
- Interestingly, the numbers of fishing households who do not have members involved in active fishing but owning crafts and gears stood at 4,000 (0.44%) and 6,000 (0.70%) approximately, which were less than half of the 2005 fishermen census percentages.

- Goa happened to be the only state which had bucked the increasing trend with a distinct drop in the percentage of families engaged in fishing without craft and gear.
- The number of fisher families wherein only women were involved in fishing and allied activities was 41,000 which was a 17% increase over corresponding 2005 figures. However, the percentage of such families to the total fishermen families remained the same at 5%.
- Maharashtra happened to be the state with maximum proportion (12.5%) of families with only women involved in fishing or allied activities. West Bengal had the least proportion of such families.



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TABLE 1. STATE PROFILE

State/U.T.	Coastal length (km)	Landing centres	Fishing villages	Fishermen families	Traditional fishermen families	BPL families	Fisherfolk population
West Bengal	158	59	188*	76,981	53,532	48,870	380,138
Odisha	480	73	813	114,238	87,541	56,279	605,514
Andhra Pradesh	974	353	555	163,427	161,039	159,101	605,428
Tamil Nadu	1076	407	573	192,697	185,465	127,245	802,912
Puducherry	45	25	40	14,271	14,248	10,998	54,627
Kerala	590	187	222	118,937	116,321	65,459	610,165
Karnataka	300	96	144	30,713	28,533	23,624	167,429
Goa	104	33	39	2,189	2,147	489	10,545
Maharashtra	720	152	456	81,492	74,203	15,509	386,259
Gujarat	1600	121	247	62,231	59,469	15,784	336,181
Daman & Diu	21	5	11	7,374	7,181	333	40,016
<b>Total</b>	<b>6,068</b>	<b>1,511</b>	<b>3,288</b>	<b>864,550</b>	<b>789,679</b>	<b>523,691</b>	<b>3,999,214</b>

\* Subsequent reference to villages actually means Gram Panchayat in West Bengal

TABLE 2. POPULATION DISTRIBUTION STRUCTURE

State/U.T.	Male		Female		Total	Average family size	Sex ratio (females per 1000 males)		
	Adult	Children		Adult				Children	
		Upto 5 yrs	Above 5 yrs					Upto 5 yrs	Above 5 yrs
West Bengal	123,511	28,302	51,961	108,894	25,252	42,218	380,138	865	
Odisha	187,546	48,581	83,824	167,851	43,378	74,334	605,514	893	
Andhra Pradesh	191,136	30,105	90,284	190,888	29,846	73,169	605,428	943	
Tamil Nadu	286,158	34,879	93,130	271,774	33,908	83,063	802,912	939	
Puducherry	17,695	2,983	6,877	18,290	2,792	5,990	54,627	982	
Kerala	220,602	27,649	62,139	215,820	27,676	56,279	610,165	966	
Karnataka	63,301	8,147	15,928	58,254	7,311	14,488	167,429	916	
Goa	4,292	435	751	3,987	378	702	10,545	925	
Maharashtra	134,403	15,756	47,601	132,013	15,327	41,159	386,259	953	
Gujarat	102,281	22,152	50,994	96,097	20,937	43,720	336,181	916	
Daman & Diu	12,381	2,550	5,598	12,354	2,292	4,841	40,016	949	
Total	1,343,306	221,539	509,087	1,276,222	209,097	439,963	3,999,214	928	

TABLE 3. EDUCATIONAL STATUS

State/U. T.	Primary		Higher Secondary		Above Higher Secondary		Unschoolled*	
	Male	Female	Male	Female	Male	Female	Male	Female
West Bengal	70,102	63,924	37,269	26,470	3,082	885	65,019	59,833
Odisha	88,860	79,386	49,467	36,223	12,550	5,829	120,493	120,747
Andhra Pradesh	52,880	47,117	39,571	30,016	12,101	5,370	176,868	181,554
Tamil Nadu	109,608	98,238	107,131	98,204	25,474	23,606	137,075	134,789
Puducherry	5,992	5,933	8,277	7,269	2,291	1,537	8,012	9,541
Kerala	93,580	88,601	95,764	90,482	16,171	17,662	77,226	75,354
Karnataka	21,984	20,828	22,492	18,274	8,217	6,205	26,536	27,435
Goa	1,429	1,452	2,445	1,945	621	473	548	819
Maharashtra	51,006	53,391	68,723	51,535	12,235	8,808	50,040	59,438
Gujarat	35,427	30,906	32,174	23,266	4,157	2,045	81,517	83,600
Daman & Diu	5,662	5,025	6,470	5,459	1,086	522	4,761	6,189
<b>Total</b>	<b>536,530</b>	<b>494,801</b>	<b>469,783</b>	<b>389,143</b>	<b>97,985</b>	<b>72,942</b>	<b>748,095</b>	<b>759,299</b>

\* Children below 5 years excluded

TABLE 4. ACTIVE FISHERFOLK

State/U.T.	Actual fishing		Fish seed collection				Total
	Full time	Part time	Full time		Part time		
			Male	Female	Male	Female	
West Bengal	55,511	24,744	3,211	2,792	2,111	6,914	95,283
Odisha	99,972	35,609	5,162	10,173	3,252	8,243	162,411
Andhra Pradesh	127,837	19,373	1,145	463	1,317	733	150,868
Tamil Nadu	198,856	13,078	1,563	140	124	303	214,064
Puducherry	11,510	668	4	17	1	9	12,209
Kerala	130,922	10,582	2,090	901	328	573	145,396
Karnataka	32,037	6,657	948	560	128	426	40,756
Goa	1,505	865	0	0	0	0	2,370
Maharashtra	62,614	11,414	433	286	660	938	76,345
Gujarat	65,002	10,983	3,532	775	762	1,847	82,901
Daman & Diu	6,042	1,339	28	21	27	23	7,480
Total	791,808	135,312	18,116	16,128	8,710	20,009	990,083

TABLE 5. OCCUPATION PROFILE

State/U.T.	Active fishermen	No. of members involved in fishing allied activities						Other than fishing	Total occupied
		Marketing of fish	Making/Repairing Net	Curing/Processing	Peeling	Labourer	Others		
West Bengal	95,283	7,820	18,419	2,543	1,532	16,177	785	3,632	146,191
Odisha	162,411	32,637	17,872	8,492	2,200	27,707	753	8,138	260,210
Andhra Pradesh	150,868	39,324	14,082	16,848	2,904	64,141	2,790	10,999	301,956
Tamil Nadu	214,064	37,440	6,995	7,125	3,076	12,828	4,077	9,847	295,452
Puducherry	12,209	3,832	390	179	41	1,219	349	1,271	19,490
Kerala	145,396	20,418	3,368	5,677	9,817	14,391	736	10,693	210,496
Karnataka	40,756	14,867	1,790	1,416	1,058	13,938	1,208	4,786	79,819
Goa	2,370	1,481	117	0	0	3	0	1,130	5,101
Maharashtra	76,345	45,971	14,477	9,554	6,493	28,873	5,908	5,657	193,278
Gujarat	82,901	17,975	8,153	1,596	4,550	18,758	762	4,222	138,917
Daman & Diu	7,480	1,541	1,041	37	28	1,111	6	3,188	14,432
<b>Total</b>	<b>990,083</b>	<b>223,306</b>	<b>86,704</b>	<b>53,467</b>	<b>31,699</b>	<b>199,146</b>	<b>17,374</b>	<b>63,563</b>	<b>1,665,342</b>



TABLE 6. GENDER-WISE FISHING ALLIED ACTIVITIES

State/U.T.	Marketing of fish		Making/ Repairing Net		Curing/ Processing		Peeling		Labourer		Others*	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
West Bengal	4,745	3,075	5,241	13,178	420	2,123	478	1,054	12,789	3,388	700	85
Odisha	10,996	21,641	10,896	6,976	1,556	6,936	539	1,661	16,648	11,059	526	227
Andhra Pradesh	4,289	35,035	11,947	2,135	1,252	15,596	308	2,596	16,580	47,561	1,224	1,566
Tamil Nadu	4,228	33,212	4,467	2,528	990	6,135	401	2,675	9,058	3,770	1,523	2,554
Puducherry	95	3,737	387	3	4	175	4	37	817	402	210	139
Kerala	4,242	16,176	2,185	1,183	908	4,769	360	9,457	9,716	4,675	561	175
Karnataka	2,485	12,382	1,790	0	144	1,272	127	931	6,234	7,704	486	722
Goa	54	1,427	117	0	0	0	0	0	0	3	0	0
Maharashtra	7,303	38,668	7,062	7,415	427	9,127	466	6,027	17,403	11,470	1,628	4,280
Gujarat	2,116	15,859	3,829	4,324	618	978	589	3,961	8,391	10,367	467	295
Daman & Diu	99	1,442	413	628	23	14	14	14	561	550	2	4
<b>Total</b>	<b>40,652</b>	<b>182,654</b>	<b>48,334</b>	<b>38,370</b>	<b>6,342</b>	<b>47,125</b>	<b>3,286</b>	<b>28,413</b>	<b>98,197</b>	<b>100,949</b>	<b>7,327</b>	<b>10,047</b>

\* Includes persons engaged in auctioning, ice breaking, collection of bivalves, collection of other shells, collection of seaweed, collection of ornamental fish etc.

TABLE 7. RELIGION AND COMMUNITY (NO. OF FAMILIES)

State/U.T.	Religion				Community	
	Hinduism	Islam	Christianity	Others	Total	SC/ST
West Bengal	70,893	5,968	91	29	76,981	42,169
Odisha	110,762	1,851	1,546	79	114,238	67,773
Andhra Pradesh	161,419	177	1,831	0	163,427	1,905
Tamil Nadu	109,166	12,829	70,694	8	192,697	11,112
Puducherry	14,226	25	20	0	14,271	24
Kerala	34,509	33,708	50,720	0	118,937	2,239
Karnataka	26,926	3,295	492	0	30,713	2,180
Goa	1,435	16	738	0	2,189	0
Maharashtra	69,066	6,828	5,332	266	81,492	12,922
Gujarat	46,816	15,413	0	2	62,231	3,483
Daman & Diu	7,256	117	0	1	7,374	97
<b>Total</b>	<b>652,474</b>	<b>80,227</b>	<b>131,464</b>	<b>385</b>	<b>864,550</b>	<b>143,904</b>

**TABLE 8. MEMBERSHIP IN CO-OPERATIVES**

State/U.T.	Members in		
	Fisheries co-operatives	Other co-operatives	Total
West Bengal	11,974	4,411	16,385
Odisha	27,395	22,734	50,129
Andhra Pradesh	37,875	82,622	120,497
Tamil Nadu	254,378	70,822	325,200
Puducherry	23,620	1,801	25,421
Kerala	124,971	59,536	184,507
Karnataka	30,287	13,909	44,196
Goa	1,415	46	1,461
Maharashtra	56,896	3,173	60,069
Gujarat	8,903	1,054	9,957
Daman & Diu	1,303	239	1,542
<b>Total</b>	<b>579,017</b>	<b>260,347</b>	<b>839,364</b>

**TABLE 9. FISHERMEN FAMILIES ENGAGED IN AQUACULTURE**

State/U.T.	Type of aquaculture											Acquired training
	Fish	Prawn	Crab	Lobster	Mussel	Clam	Oyster	Ornamental fish	Seaweed	Others	Total	
West Bengal	3,951	534	33	133	0	6	0	2	22	7	4,688	949
Odisha	2,199	826	173	1	0	213	0	44	19	5	3,480	1,380
Andhra Pradesh	92	4,749	529	7	0	1	0	1	3	3	5,385	1,099
Tamil Nadu	148	48	4	3	0	0	0	0	149	0	352	1,794
Puducherry	0	2	0	0	0	0	0	0	0	0	2	168
Kerala	49	9	0	0	303	3	0	4	2	0	370	1,013
Karnataka	49	35	1	0	5	3	1	0	0	0	94	237
Goa	0	0	0	0	0	0	0	0	0	0	0	57
Maharashtra	396	219	178	21	0	0	4	1	3	1	823	134
Gujarat	206	156	8	82	0	0	0	0	15	8	475	632
Daman & Diu	0	5	0	0	0	0	0	0	0	0	5	6
Total	7,090	6,583	926	247	308	226	5	52	213	24	15,674	7,469

**TABLE 10. LIFE SAVING EQUIPMENTS & ELECTRONIC EQUIPMENTS (NO. OF FAMILIES)**

State/U.T.	Life saving equipment	Electronic /Communication gadgets		
		Mobile phone	GPS	Others
West Bengal	13,901	20,598	342	9,152
Odisha	8,428	35,429	447	3,122
Andhra Pradesh	8,017	34,522	692	3,117
Tamil Nadu	65,773	92,647	6,444	1,660
Puducherry	2,245	3,289	147	16
Kerala	5,291	36,965	3,288	2,354
Karnataka	5,709	14,171	1,297	603
Goa	159	737	324	284
Maharashtra	5,428	17,207	1,221	2,942
Gujarat	15,169	23,237	3,910	2,980
Daman & Diu	892	437	427	121
<b>Total</b>	<b>131,012</b>	<b>279,239</b>	<b>18,539</b>	<b>26,351</b>

TABLE 11. FISHING CRAFT IN THE FISHERY

State/U.T.	Trawlers	Gillnetters	Dolnetters	Liners	Ring seiners	Purse seiners	Carrierboats	Others	Total Mechanized	Motorized	Non-motorized	Total
West Bengal	1,357	5,644	5,137*	632	0	0	321	1,191	14,282	0	3,066	17,348
Odisha	1,305	781	50*	112	0	0	0	0	2,248	3,922	4,656	10,826
Andhra Pradesh	1,341	1,644	0	0	182	0	0	0	3,167	10,737	17,837	31,741
Tamil Nadu	5,767	4,028	0	380	306	0	0	211	10,692	24,942	10,436	46,070
Puducherry	367	2	0	0	0	0	0	0	369	1,562	662	2,593
Kerala	3,678	460	0	29	495	60	0	0	4,722	11,175	5,884	21,781
Karnataka	2,847	200	0	0	5	422	169	0	3,643	7,518	2,862	14,023
Goa	834	12	0	0	0	296	0	0	1,142	1,297	227	2,666
Maharashtra	5,613	2,961	3,973	5	0	435	0	29	13,016	1,563	2,783	17,362
Gujarat	11,582	4,125	2,571	0	0	0	0	0	18,278	8,238	1,884	28,400
Daman & Diu	537	400	63	0	0	0	0	0	1,000	359	321	1,680
<b>Total</b>	<b>35,228</b>	<b>20,257</b>	<b>11,794</b>	<b>1,158</b>	<b>988</b>	<b>1,213</b>	<b>490</b>	<b>1,431</b>	<b>72,559</b>	<b>71,313</b>	<b>50,618</b>	<b>194,490</b>

\* Craft mainly employed in bagnet fishery

TABLE 12. CRAFT OWNED BY FISHERFOLK (100% OWNERSHIP)

Type	West Bengal	Odisha	Andhra Pradesh	Tamil Nadu	Puducherry	Kerala	Karnataka	Goa	Maharashtra	Gujarat	Daman & Diu	Total
<b>Mechanized</b>												
Trawler	659	296	601	3,046	280	370	614	410	1,119	3,431	421	11,247
Gillnetter	3537	2,456	864	3,059	101	96	269	12	3,000	2,964	284	16,642
Purseineer	0	0	0	0	0	36	157	209	150	0	0	552
Dolnetter	581	13	0	0	1	68	0	0	4,508	2,162	81	7,414
Ringseiner	0	20	31	274	9	179	5	0	8	0	0	526
Liner	65	22	21	281	0	14	0	0	89	12	0	504
Others	41	54	930	123	14	17	0	0	619	177	7	1,982
<b>Outboard</b>												
Catamaran	0	55	474	2,547	89	332	0	0	41	86	4	3,628
Dugout canoe	0	203	77	144	12	171	322	32	355	186	1	1,503
Plank built boat	0	1,384	251	228	30	1,435	216	449	105	72	7	4,177
Plywood boat	0	32	218	1,721	25	3,017	20	0	40	15	0	5,088
Fibre glass boat	0	1,131	2,595	11,775	679	1,594	606	103	743	5,176	142	24,544

TABLE 12. Contd.

Type	West Bengal	Odisha	Andhra Pradesh	Tamilnadu	Puducherry	Kerala	Karnataka	Goa	Maharashtra	Gujarat	Daman Diu	Total
Ferro cement boat	0	1	14	105	0	12	0	0	0	21	1	154
Carrier boat	0	19	30	44	2	41	0	0	4	10	1	151
Teppa	0	220	238	662	1	19	0	0	7	7	5	1,159
Others	0	39	68	47	2	50	47	0	51	10	0	314
<b>Non-motorized</b>												
Dugout canoe	240	1,225	696	126	21	676	2,156	102	2,346	1,040	26	8,654
Catamaran	113	829	9,306	8,961	1,053	1,812	2	0	184	159	0	22,419
Plank built boat	6,661	15,548*	12,892	3,451	785	2,468	2,033	585	3,021	544	35	48,023
Ferro cement boat	2	17	59	7	2	50	0	0	207	57	2	403
Thermocol boat	0	639	0	716	0	1,324	0	0	22	39	0	2,740
Outrigger canoe	29	219	6	0	0	6	312	0	14	0	0	586
Masula boat	19	75	1,599	38	1	9	0	0	2	9	0	1,752
Others	11	810	198	111	2	189	41	0	1,550	648	235	3,795

\* craft employed mainly in riverine fishery



TABLE 13. FAMILIES HAVING &lt;100% OWNERSHIP OF FISHING CRAFT

Type	West Bengal	Odisha	Andhra Pradesh	Tamil Nadu	Puducherry	Kerala	Karnataka	Goa	Maharashtra	Gujarat	Daman & Diu	Total
<b>Mechanized</b>												
Trawler	288	171	218	1,106	72	439	411	2	454	383	15	3,559
Gillnetter	1,062	2,729	755	646	52	39	149	0	538	153	3	6,126
Purseine	0	0	0	0	0	56	218	0	37	0	0	311
Dolnetter	16	1	0	0	0	46	0	0	1,781	171	0	2,015
Ringseiner	0	29	170	1,066	111	2,869	0	0	0	0	0	4,245
Liner	6	445	4	536	6	30	0	0	1	0	0	1,028
Others	9	597	2,024	128	3	19	3	0	190	6	0	2,979
<b>Outboard</b>												
Catamaran	0	41	1,052	1,138	15	32	0	0	27	15	0	2,320
Dugout canoe	0	121	42	73	7	49	326	0	6	97	0	721
Plank built boat	0	492	50	109	1	1,965	130	12	2	28	0	2,789
Plywood boat	0	41	504	622	11	745	14	0	82	2	0	2,021
Fibre glass boat	0	1,818	13,073	8,440	851	1,989	1,187	1	27	392	0	27,778

TABLE 13. Contd.

Type	West Bengal	Odisha	Andhra Pradesh	Tamilnadu	Puducherry	Kerala	Karnataka	Goa	Maharashtra	Gujarat	Daman Diu	Total
Ferro cement boat	0	6	40	227	0	6	0	0	0	0	0	279
Carrier boat	0	5	12	4	0	147	0	0	0	0	0	168
Teppa	0	416	758	173	0	31	0	2	0	0	0	1,380
Others	0	37	34	68	0	25	105	3	5	4	0	281

TABLE 14. FISHING GEAR OWNED BY FISHERFOLK (100% OWNERSHIP)

Type	West Bengal	Odisha	Andhra Pradesh	Tamil Nadu	Puducherry	Kerala	Karnataka	Goa	Maharashtra	Gujarat	Daman & Diu	Total
Trawl/net	2,412	536	377	5,872	357	1,753	639	554	1,338	3,294	433	17,565
Gillnet	4,889	25,930	10,429	26,351	1,938	5,663	2,406	1,209	8,044	15,844	620	103,323
Driftnet	2,745	8,712	1,331	7,174	41	2,608	293	219	4,815	232	4	28,174
Ringseine	0	589	978	1,035	13	1,639	167	89	879	0	0	5,389
Purse seine	0	0	0	0	10	196	123	227	181	0	0	737
Boat seine	41	2,908	616	1,185	3	437	170	0	31	217	23	5,631
Bagnet	8,693	6,410	101	363	22	303	0	0	8,749	4,983	164	29,788
Shore seine	837	4,501	179	4,289	83	485	125	263	1,763	2,996	196	15,717
Castnet	2,979	26,802	7,283	953	32	1,081	2,653	411	8,762	4,672	414	56,042
Hooks & Lines	1,013	2,889	3,590	5,584	145	857	287	0	2,375	2,132	12	18,884
Troll line	1	50	42	1,021	11	162	13	0	11	12	0	1,323
Fixed net	169	223	2,756	81	97	44	3	0	1,292	1,675	0	6,340
Traps	148	238	18	225	0	4	6	6	5,796	313	0	6,754
Scoopnet	1,791	3,907	476	90	1	180	10	0	206	272	0	6,933
Others	54	752	2,155	3,628	30	529	2,477	0	5,669	495	46	15,835

TABLE 15. FISHING GEAR OWNED BY FISHERFOLK (&lt;100% OWNERSHIP)

Type	West Bengal	Odisha	Andhra Pradesh	Tamil Nadu	Pondicherry	Kerala	Karnataka	Goa	Maharashtra	Gujarat	Daman & Diu	Total
Trawlnet	271	44	197	414	48	227	94	0	193	146	8	1,642
Gillnet	243	4,817	8,136	4,252	375	449	98	6	255	1,221	6	19,858
Driftnet	160	819	278	1,001	6	267	18	0	97	7	0	2,653
Ringseine	0	239	768	242	22	331	47	0	15	0	0	1,664
Purseine	0	0	0	0	7	31	22	0	3	0	0	63
Boatseine	4	441	158	59	5	57	28	0	0	4	0	756
Bagnet	147	853	34	27	38	9	0	0	282	82	0	1,472
Shoreseine	64	841	280	744	14	85	4	9	53	130	0	2,224
Castnet	216	1,033	1,905	57	32	30	19	2	48	42	2	3,386
Hooks & Lines	11	433	1,508	979	46	65	3	0	18	69	4	3,136
Troll line	0	1	2	338	1	3	0	0	0	2	0	347
Fixed net	2	4	1,403	19	19	2	0	0	11	198	0	1,658
Traps	2	10	40	6	0	1	5	0	57	410	0	531
Scoopnet	40	238	312	3	1	27	0	0	18	0	0	639
Others	6	35	724	631	15	30	22	0	93	8	0	1,564

**TABLE 16. INFRASTRUCTURE - HOUSING & EDUCATION (IN THE VILLAGES)**

State/U.T.	No. of villages	No. of Families	Housing		Education			
			Kutcha houses	Pucca houses	Primary	Secondary	College	Technical Institutions
West Bengal	188	76,981	66,284	10,697	1,198	238	9	0
Odisha	813	114,238	86,988	27,250	810	255	49	31
Andhra Pradesh	555	163,427	48,427	115,000	571	99	9	9
Tamil Nadu	573	192,697	45,062	147,635	502	149	23	14
Puducherry	40	14,271	3,940	10,331	39	8	4	2
Kerala	222	118,937	17,477	101,460	469	182	38	58
Karnataka	144	30,713	3,757	26,956	721	188	63	12
Goa	39	2,189	15	2,174	93	47	8	6
Maharashtra	456	81,492	7,732	73,760	713	245	93	58
Gujarat	247	62,231	17,312	44,919	626	190	32	14
Daman & Diu	11	7,374	846	6,528	78	34	3	6
<b>Total</b>	<b>3,288</b>	<b>864,550</b>	<b>297,840</b>	<b>566,710</b>	<b>5,820</b>	<b>1,635</b>	<b>331</b>	<b>210</b>

TABLE 17. INFRASTRUCTURE / FACILITIES (IN THE VILLAGES)

State/U.T.	No. of fishing villages	Villages having									Number of			
		Electricity	Bus stop/stand	Hospitals	Police station	Post Offices	Mob.phone coverage	Internet facility	Banks	Fisheries Co-operative Societies	Other Co-operative Societies	Community centers	Cinema theatres	Liquor shops
West Bengal	188	148	59	52	14	130	181	15	45	100	118	47	5	20
Odisha	813	517	145	35	96	172	722	26	121	230	427	219	43	501
Andhra Pradesh	555	547	276	30	7	85	532	4	40	358	2,819	267	7	246
Tamil Nadu	573	546	401	140	46	140	549	111	132	580	1,108	274	35	106
Puducherry	40	37	34	11	2	5	33	13	15	25	36	45	2	45
Kerala	222	222	206	167	56	159	192	147	289	276	255	153	57	128
Karnataka	144	140	127	84	46	124	139	135	211	58	175	119	16	171
Goa	39	39	37	21	11	22	31	29	51	11	42	61	2	3,254
Maharashtra	456	456	422	254	133	305	389	193	354	236	160	829	45	285
Gujarat	247	238	197	94	77	164	212	83	216	79	65	158	20	0
Daman & Diu	11	11	11	10	9	9	11	11	22	16	9	24	2	180
<b>Total</b>	<b>3,288</b>	<b>2,901</b>	<b>1,915</b>	<b>898</b>	<b>497</b>	<b>1,315</b>	<b>2,991</b>	<b>767</b>	<b>1,496</b>	<b>1,969</b>	<b>5,214</b>	<b>2,196</b>	<b>234</b>	<b>4,936</b>

**TABLE 18. INFRASTRUCTURE - FISHERY RELATED (IN THE VILLAGES)**

State/U.T.	Boat yards	Ice factories	Cold storages	Freezing plants	Curing yards	Peeling sheds	Processing plants	Fish meal Plants	Extraction Plants
West Bengal	3	49	0	0	0	0	1	0	0
Odisha	22	56	14	2	39	28	5	0	0
Andhra Pradesh	32	85	22	16	31	38	12	4	0
Tamil Nadu	64	105	41	6	45	24	3	0	5
Puducherry	18	14	7	0	0	0	0	0	0
Kerala	119	351	28	40	270	192	9	3	1
Karnataka	52	206	36	10	0	0	16	32	23
Goa	1	4	0	0	0	0	0	0	0
Maharashtra	5	49	33	45	10	9	53	15	9
Gujarat	39	292	228	74	146	26	90	31	0
Daman & Diu	50	16	0	2	0	0	0	0	6
<b>Total</b>	<b>405</b>	<b>1,227</b>	<b>409</b>	<b>195</b>	<b>541</b>	<b>317</b>	<b>189</b>	<b>85</b>	<b>44</b>

TABLE 19. ADDITIONAL INFORMATION

State/U.T.	Fishermen families	No. of families					
		Involved in fishing			Not going for fishing		Only women involved in fishing allied activities
		No craft	No gear	Neither	Having craft	Having gear	
West Bengal	76,981	64,729	52,673	51,290	302	636	889
Odisha	114,238	85,369	37,823	35,922	767	1,299	2,538
Andhra Pradesh	163,427	114,116	98,266	95,374	1,130	1,337	12,985
Tamil Nadu	192,697	137,098	124,287	118,643	712	874	6,467
Pondicherry	14,271	8,584	8,476	8,041	119	122	1,223
Kerala	118,937	96,585	97,372	93,905	178	145	3,405
Karnataka	30,713	22,146	21,553	19,678	101	119	1,151
Goa	2,189	666	381	314	31	56	126
Maharashtra	81,492	62,925	46,386	44,127	150	505	10,174
Gujarat	62,231	46,420	28,966	27,782	263	898	1,813
Daman & Diu	7,374	5,746	5,504	5,457	62	61	468
<b>Total</b>	<b>864,550</b>	<b>644,384</b>	<b>521,687</b>	<b>500,533</b>	<b>3,815</b>	<b>6,052</b>	<b>41,239</b>





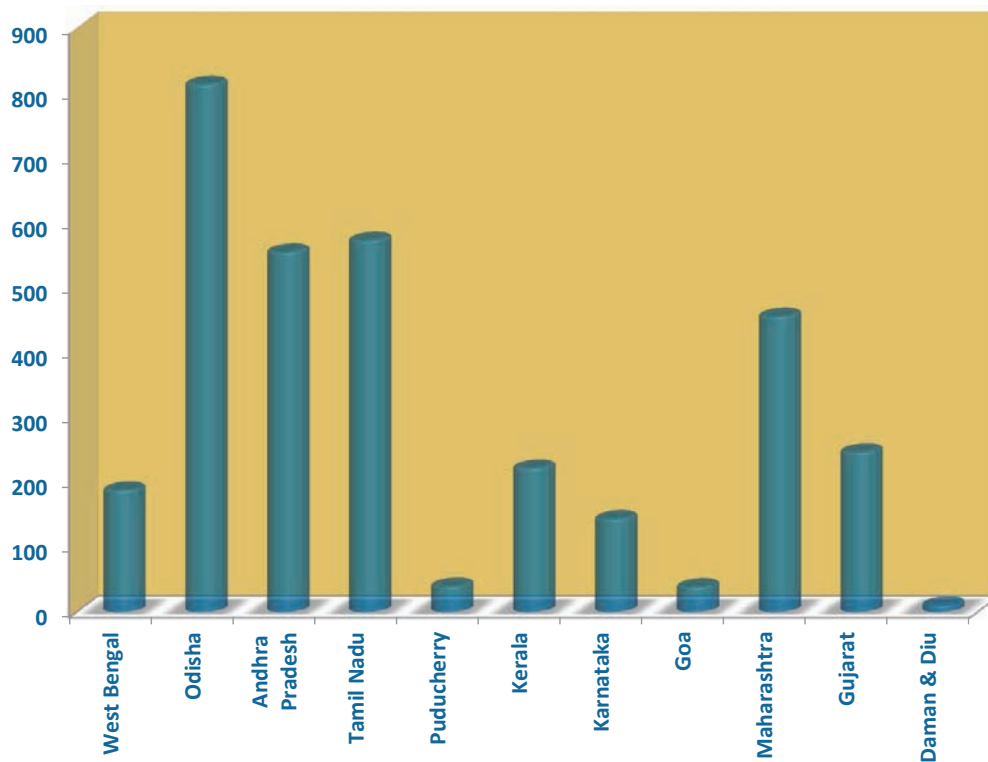
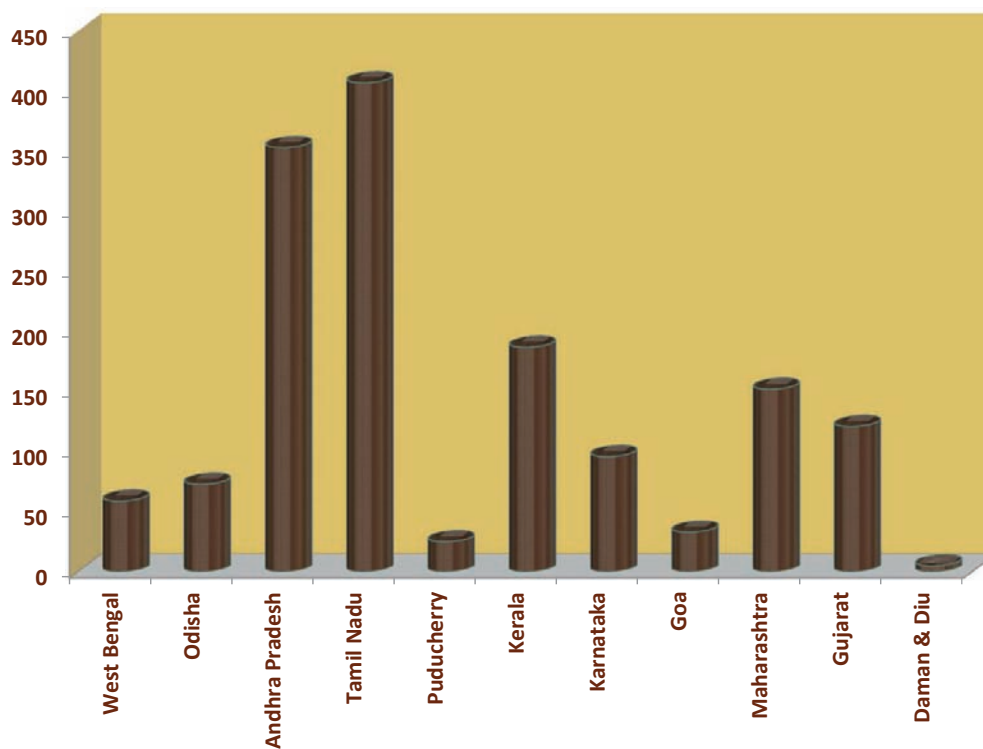
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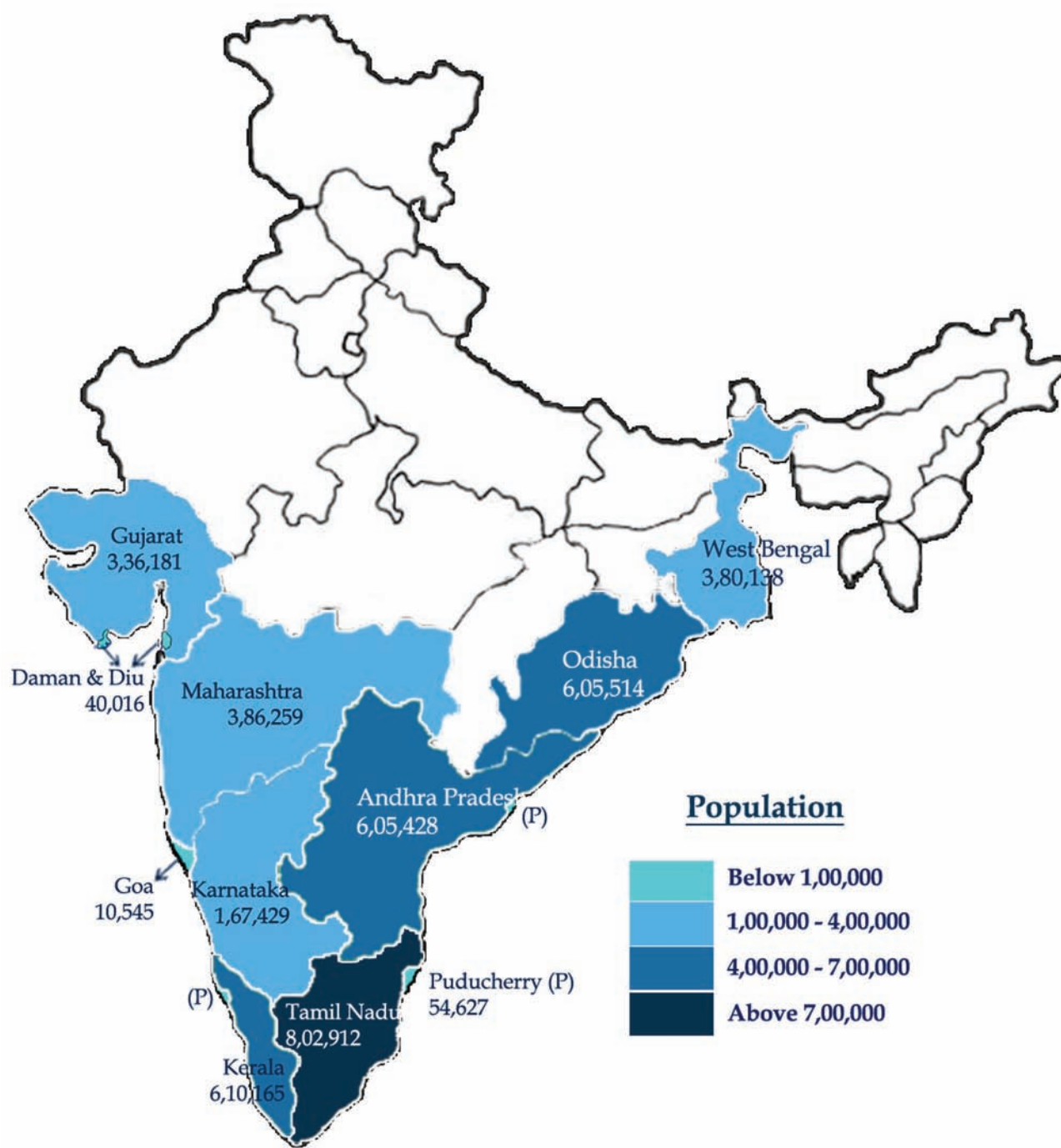


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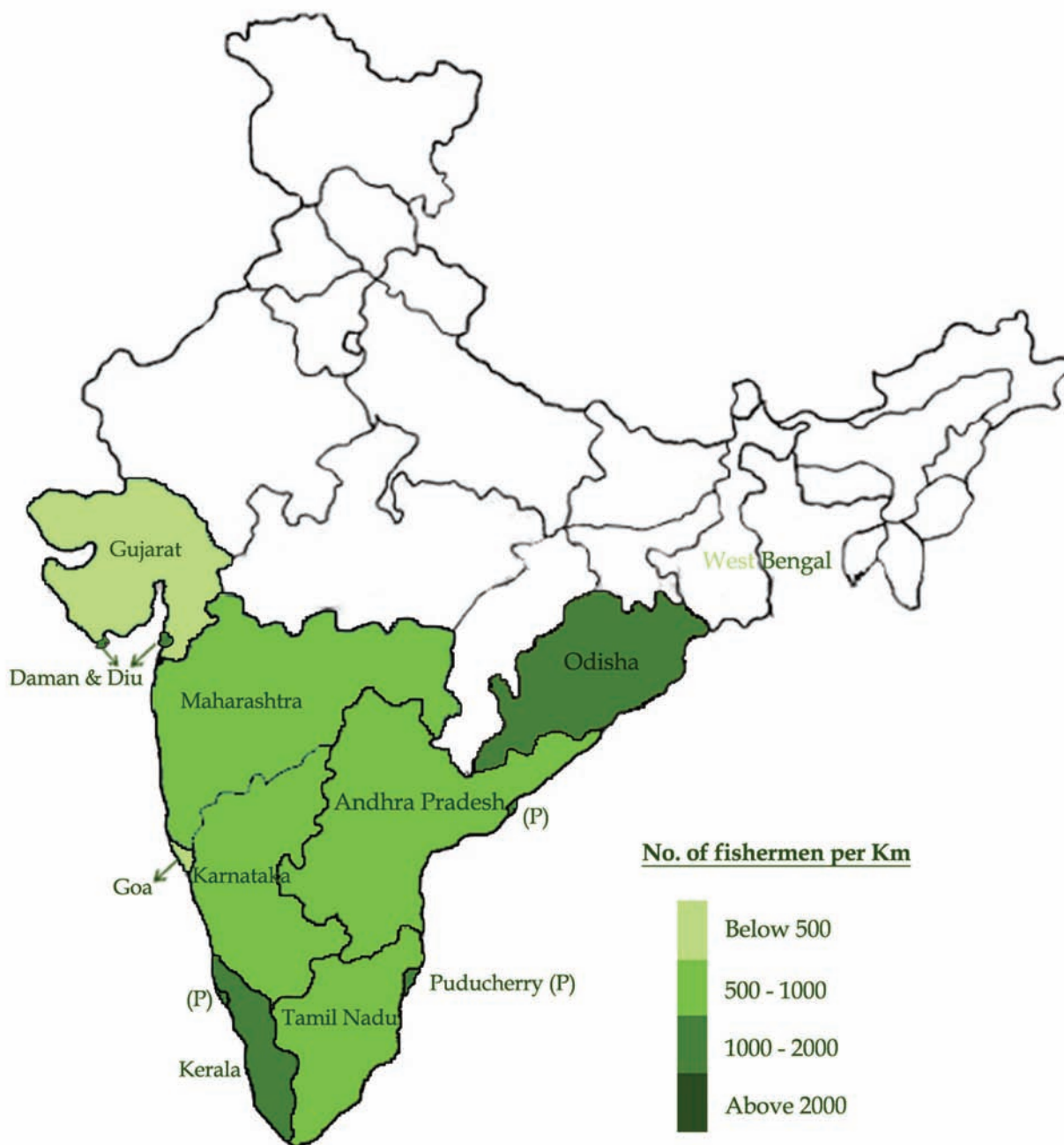
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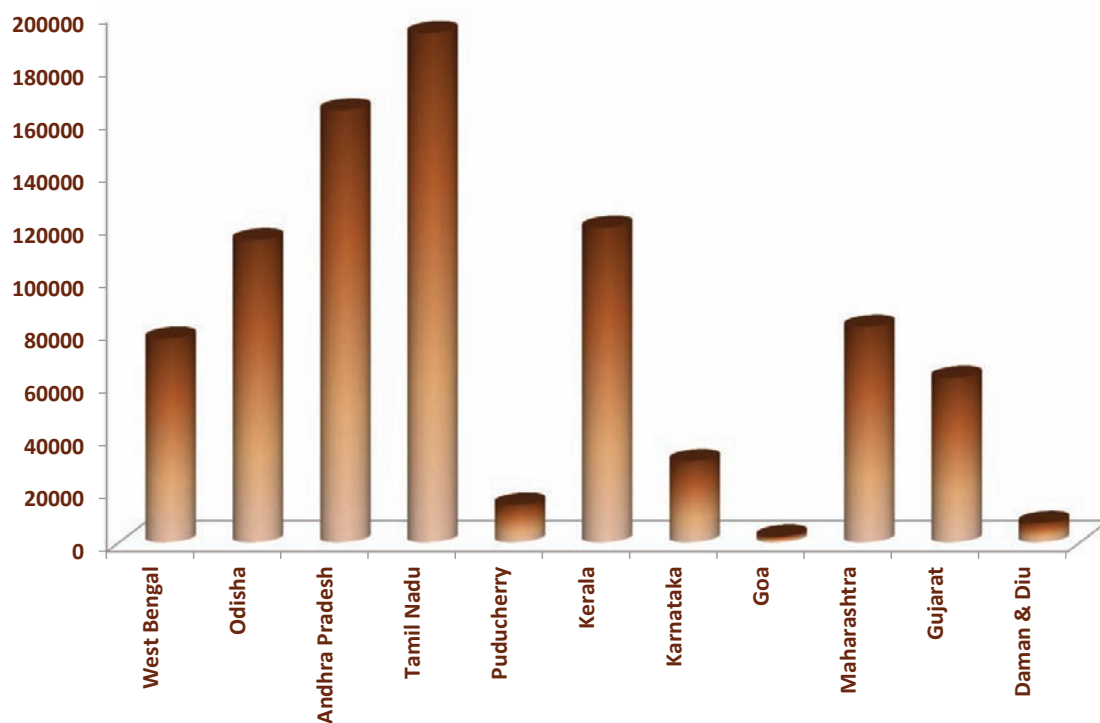
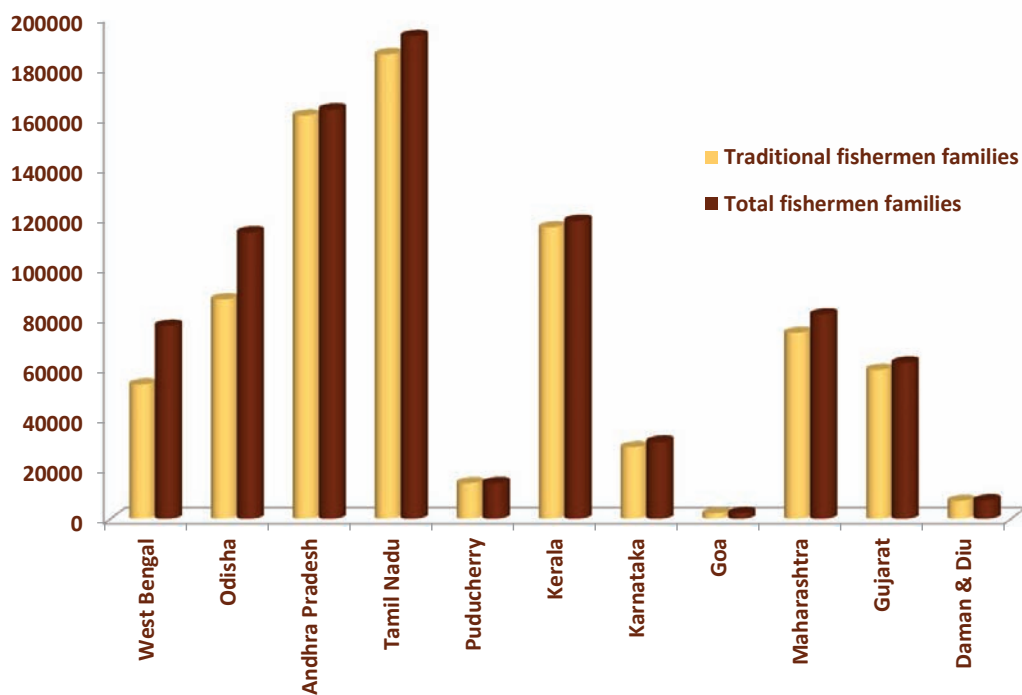
**Fig. 1. Marine fishing villages in different states & U.Ts****Fig.2. Landing centres in different states & U.Ts**

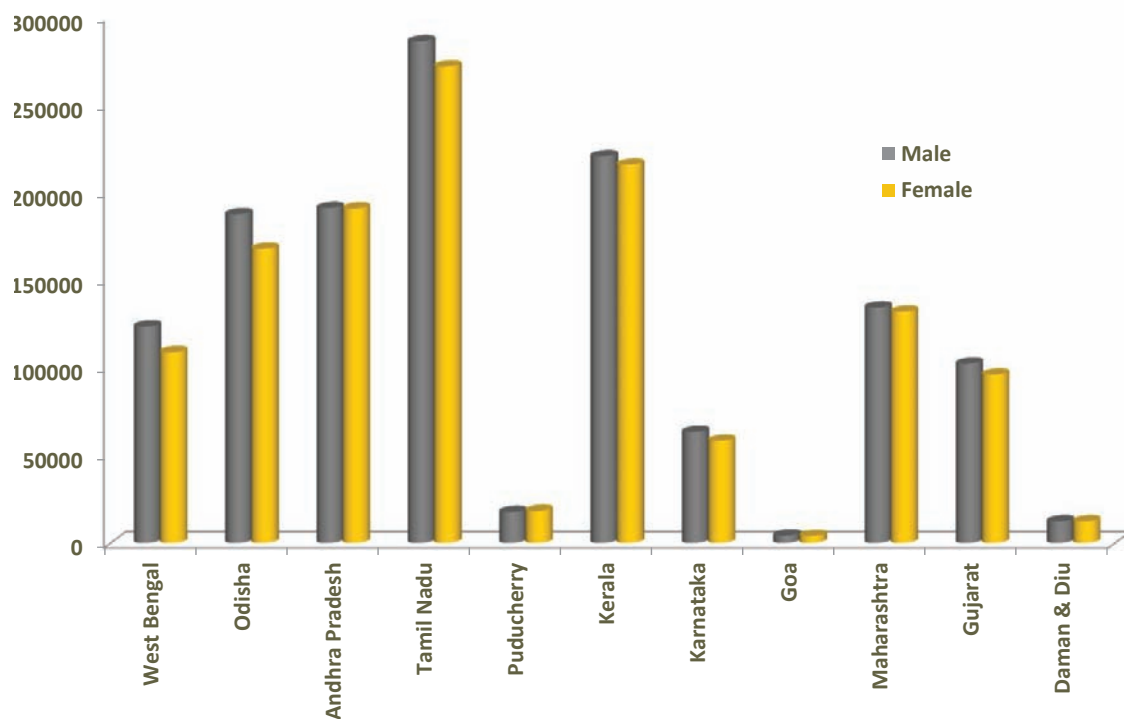
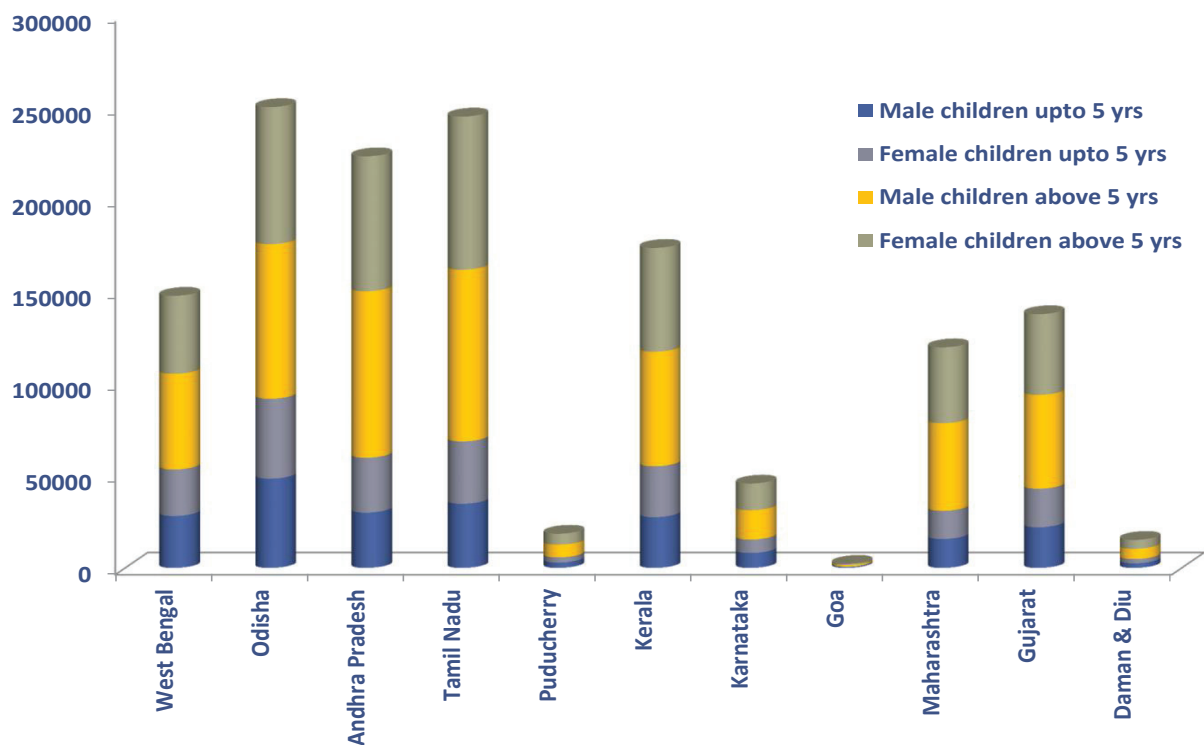
**Fig. 3. Demographic outline of marine fisherfolk**

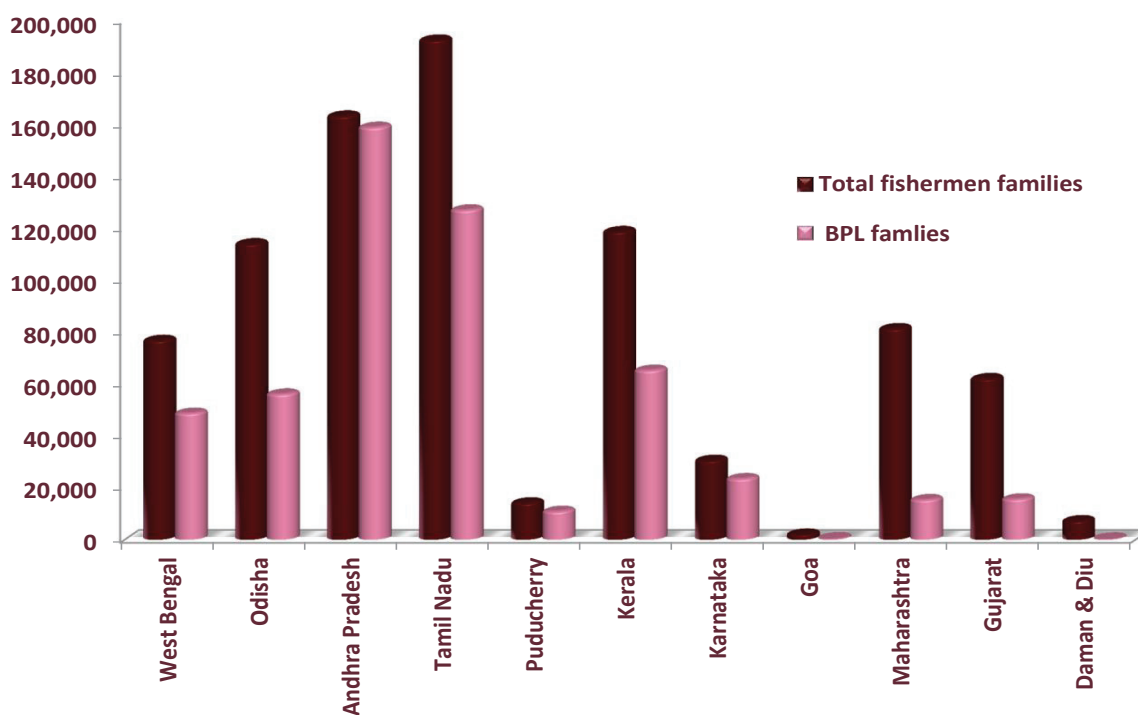
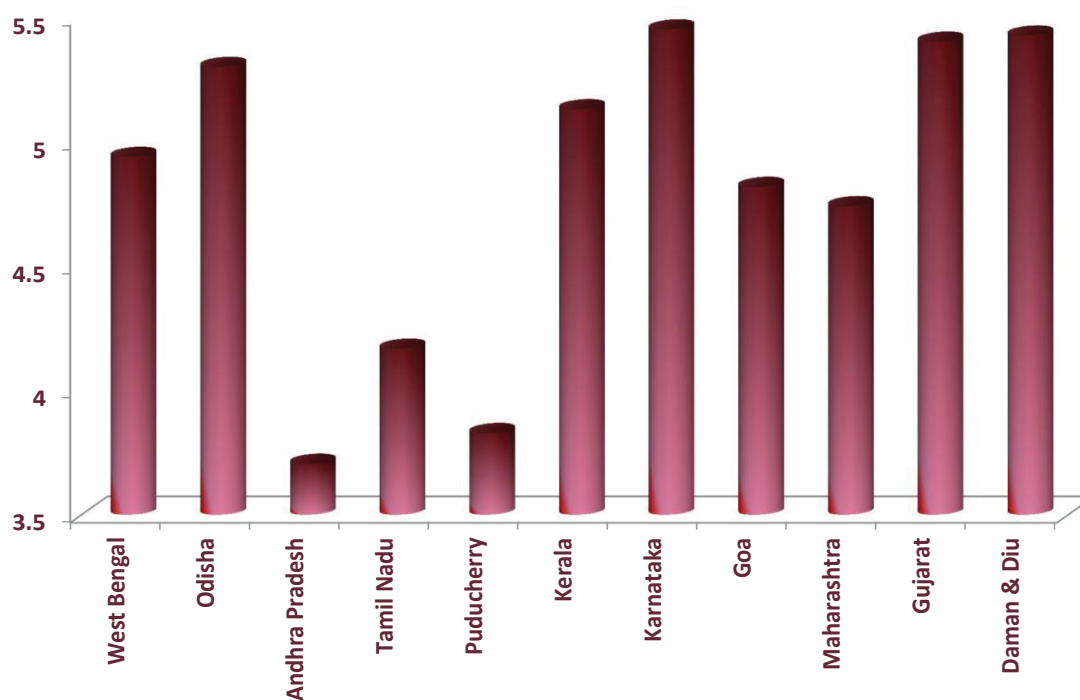
**Fig. 4. Population intensity (Number/Km coastal length)**

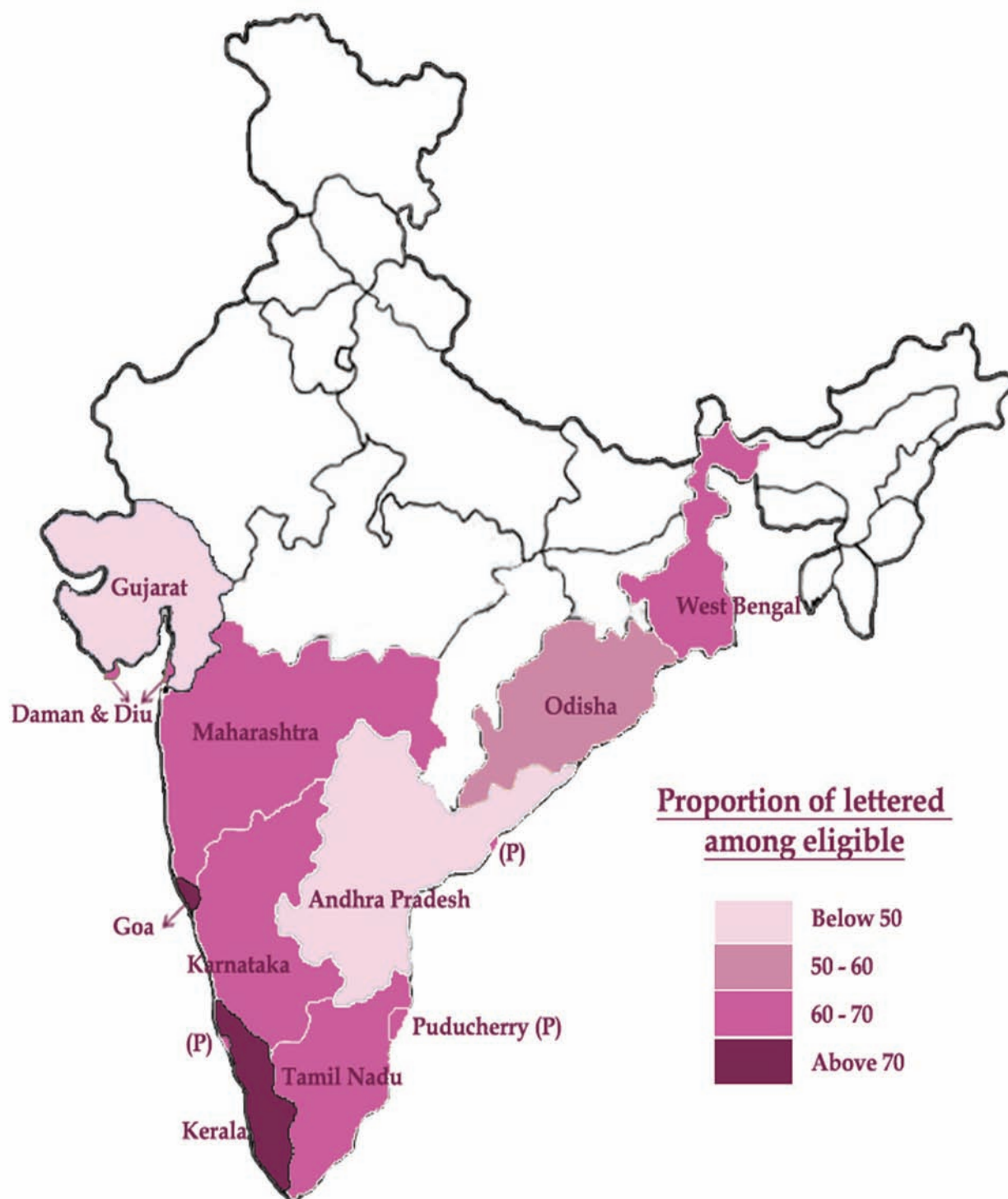


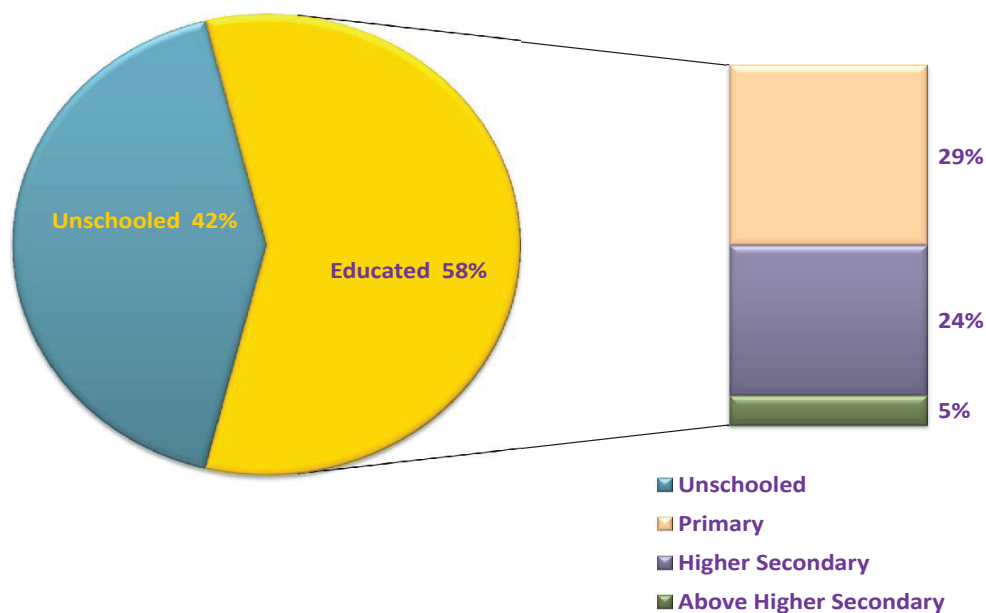
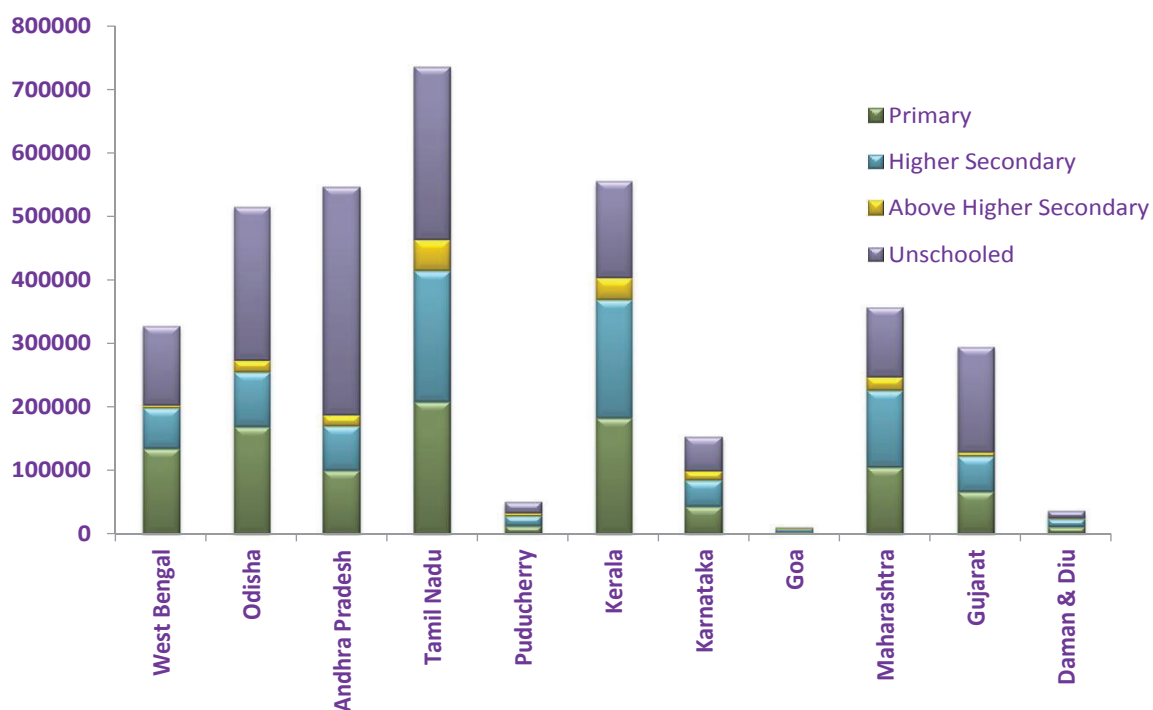


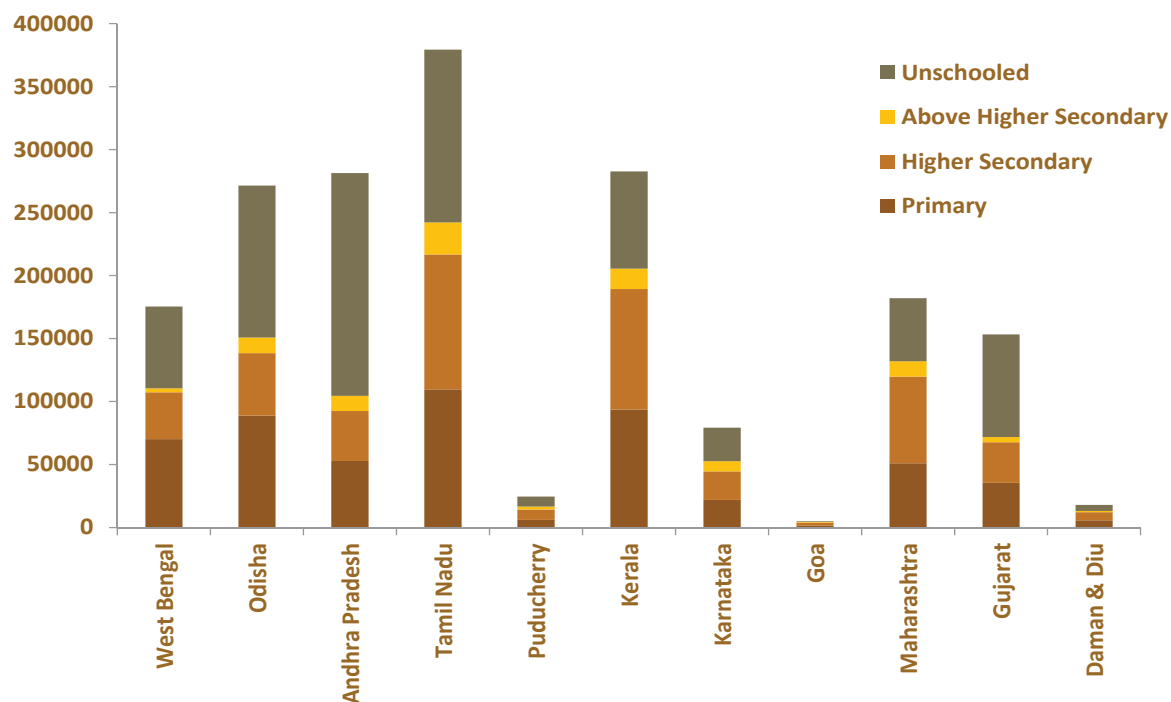
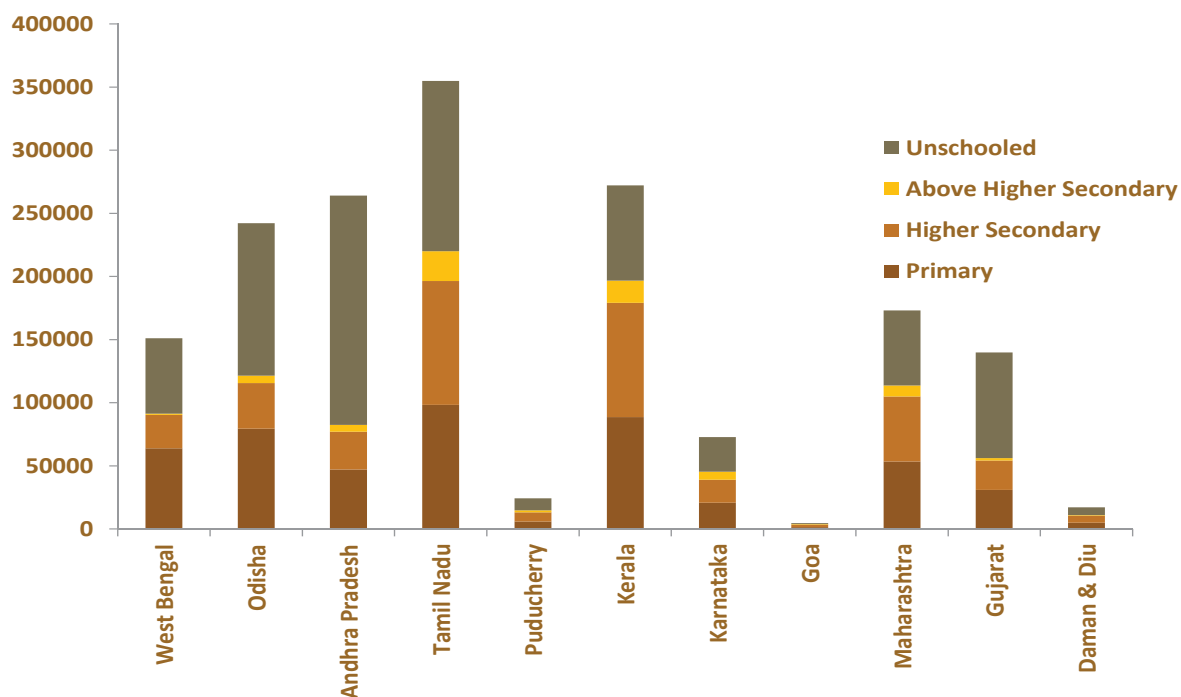
**Fig.5. Marine fishermen families****Fig.6. Traditional fishermen families**

**Fig.7. Population structure - Adults****Fig.8. Population structure - Children**

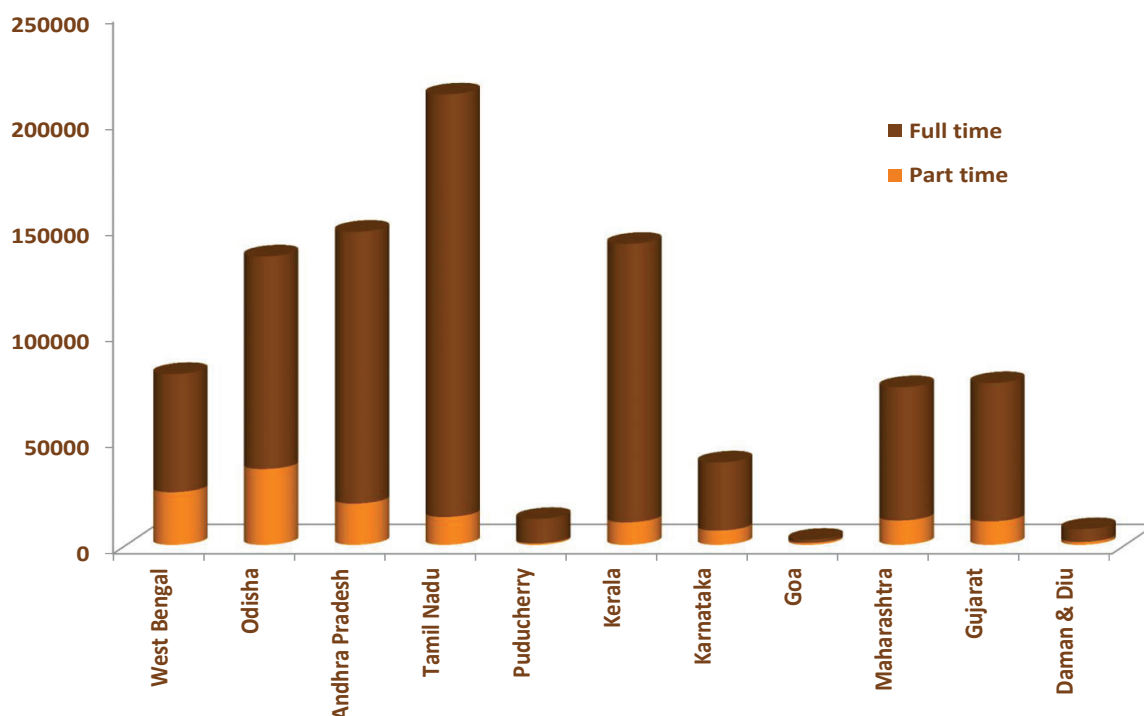
**Fig.9. BPL fishermen families****Fig.10. Average family size**

**Fig. 11. Distribution of lettered fishermen populace (%)**

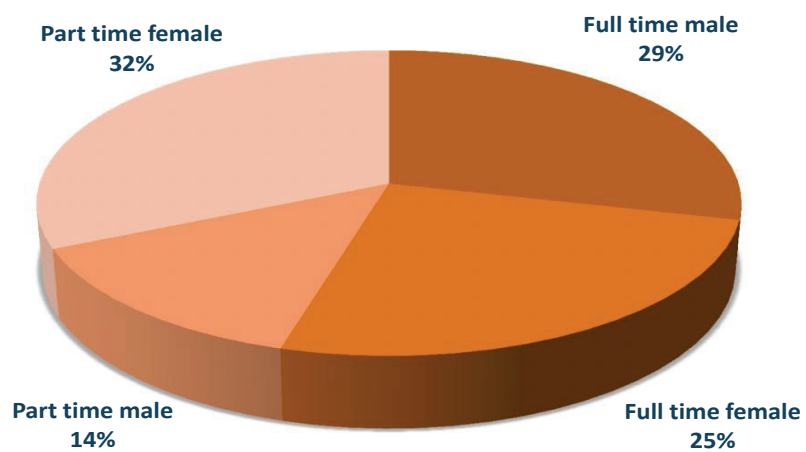
**Fig.12. Educational status of fisherfolk****Fig.13. Educational status of fisherfolk in different states & U.Ts**

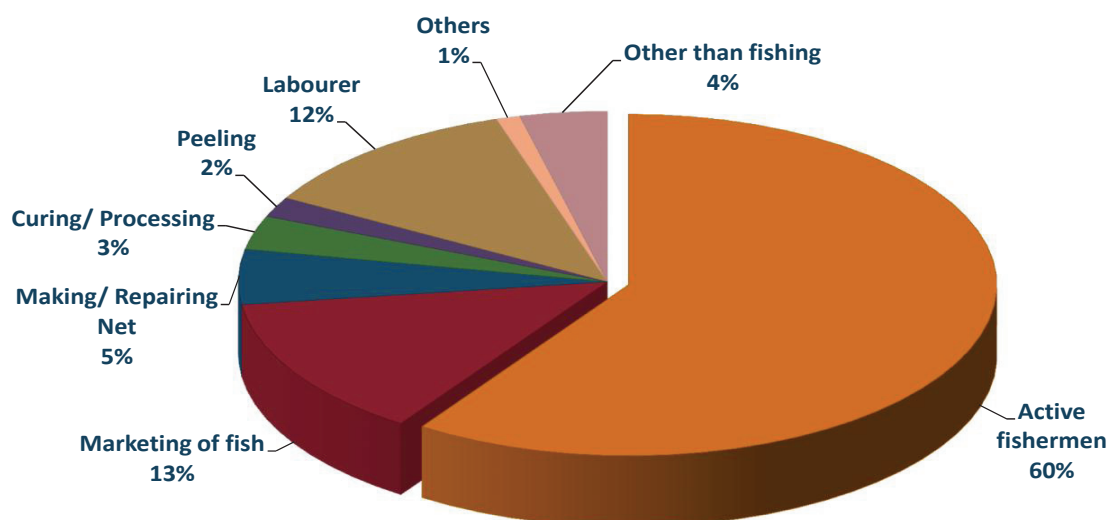
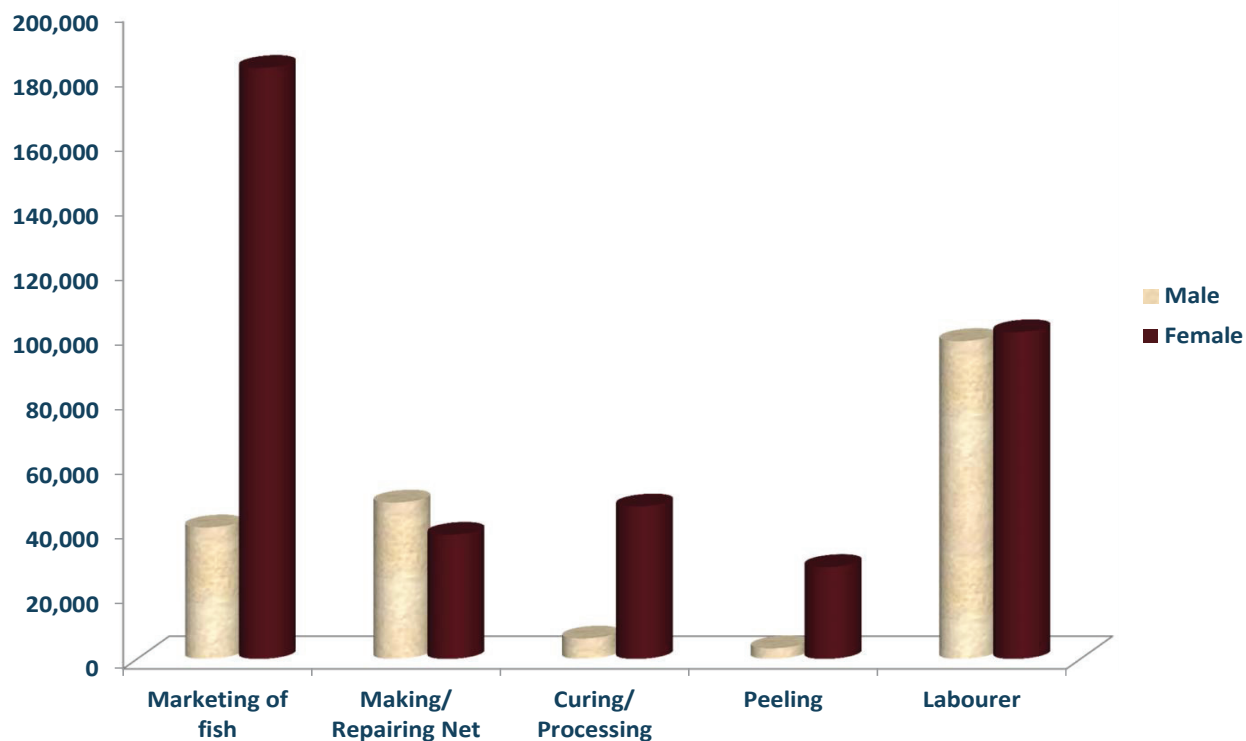
**Fig.14. Educational status of fisherfolk (Male)****Fig.15. Educational status of fisherfolk (Female)**

**Fig.16. Members involved in actual fishing**



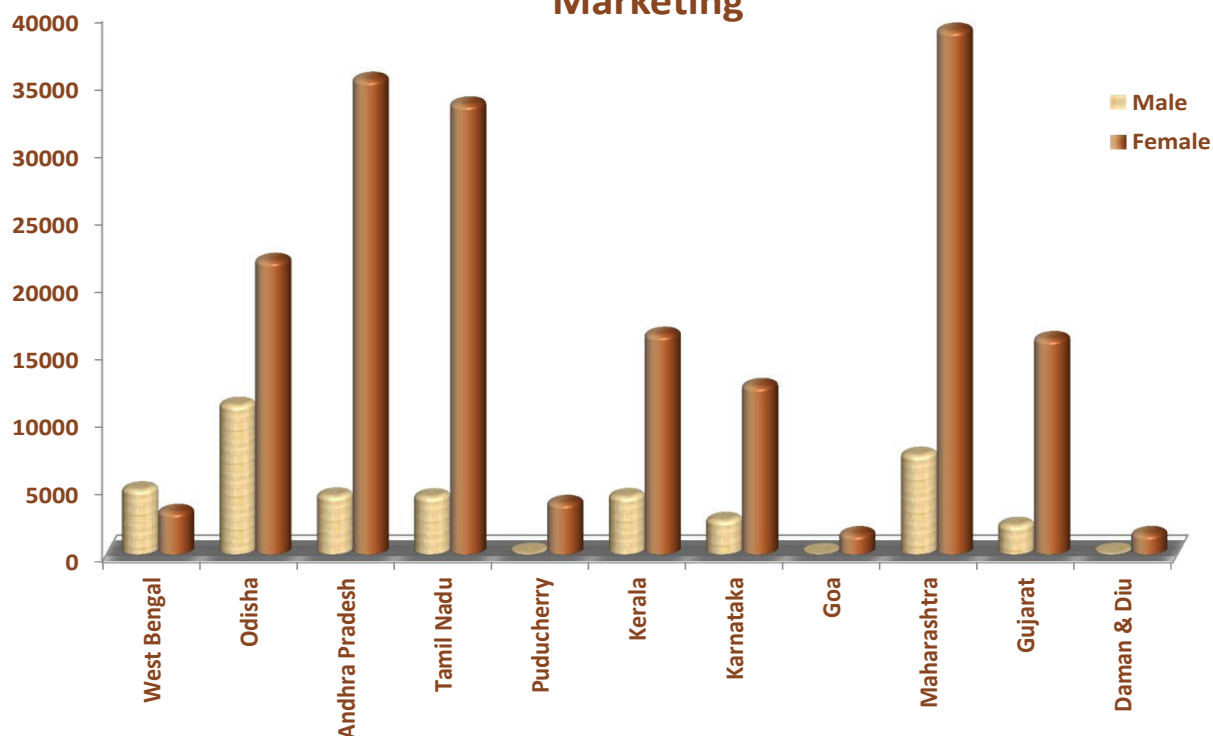
**Fig.17. Fish seed collection**



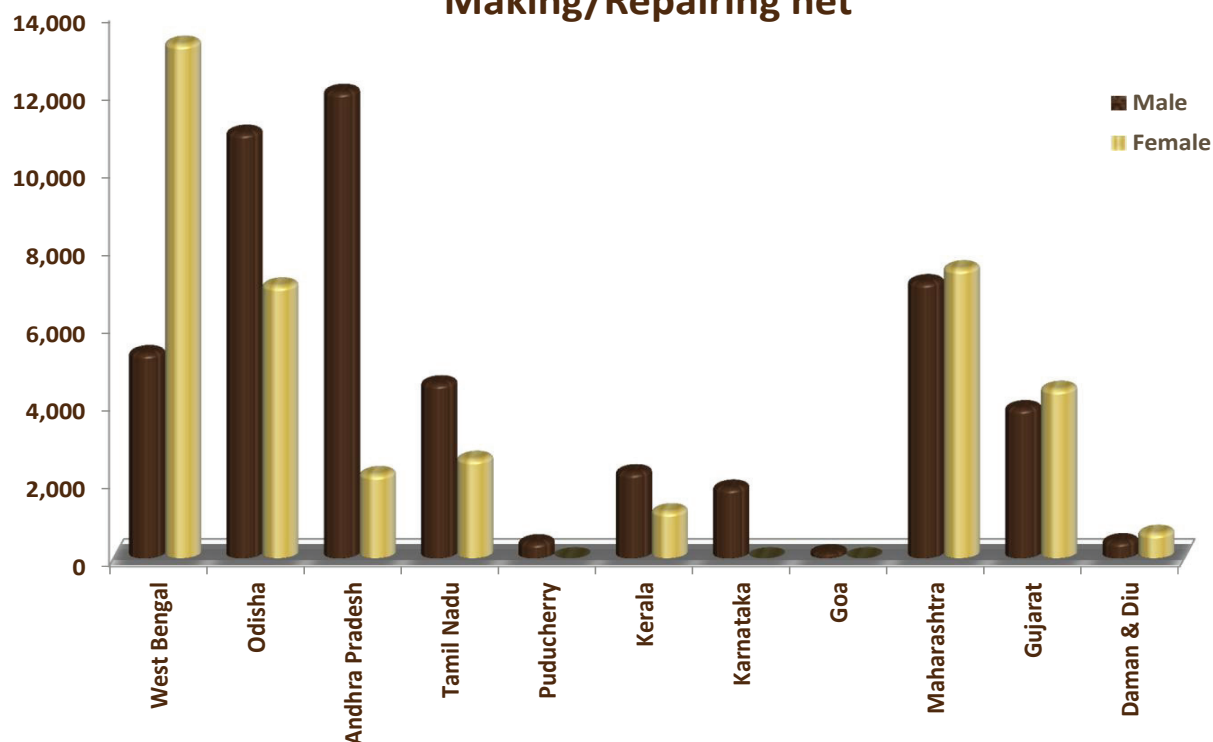
**Fig.18. Occupation profile of fisherfolk****Fig.19. Gender-wise fishing allied activities**



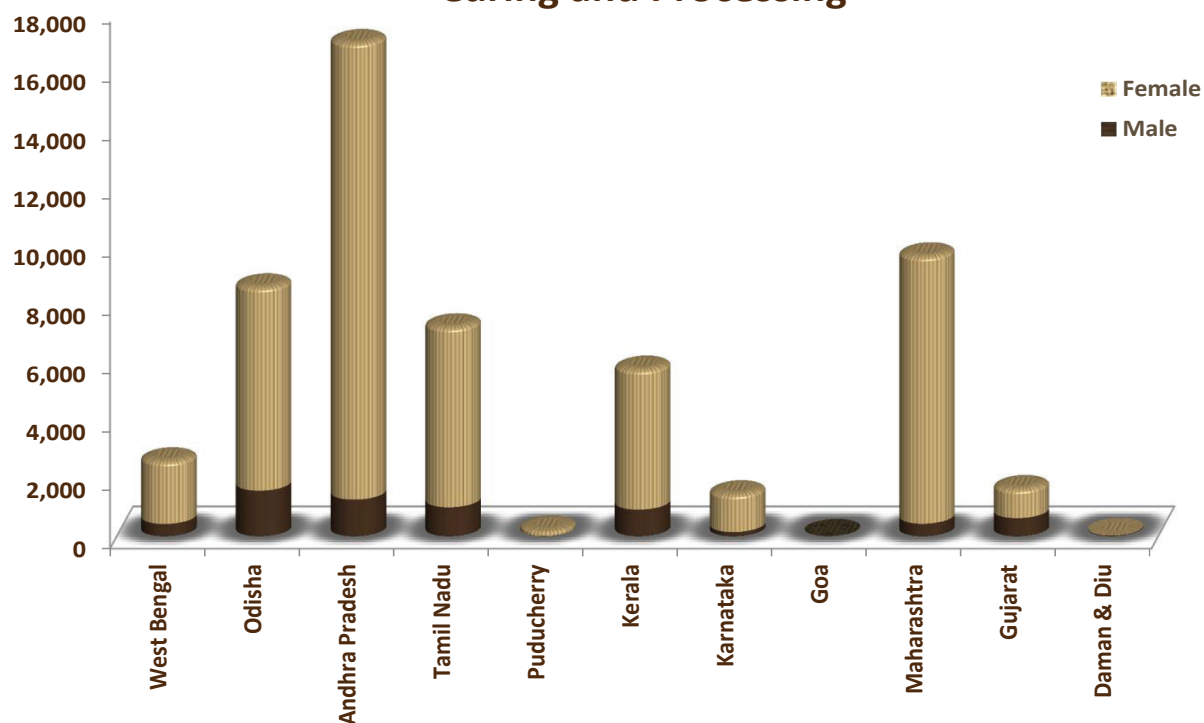
**Fig.20. Gender-wise fishing allied activities - Marketing**



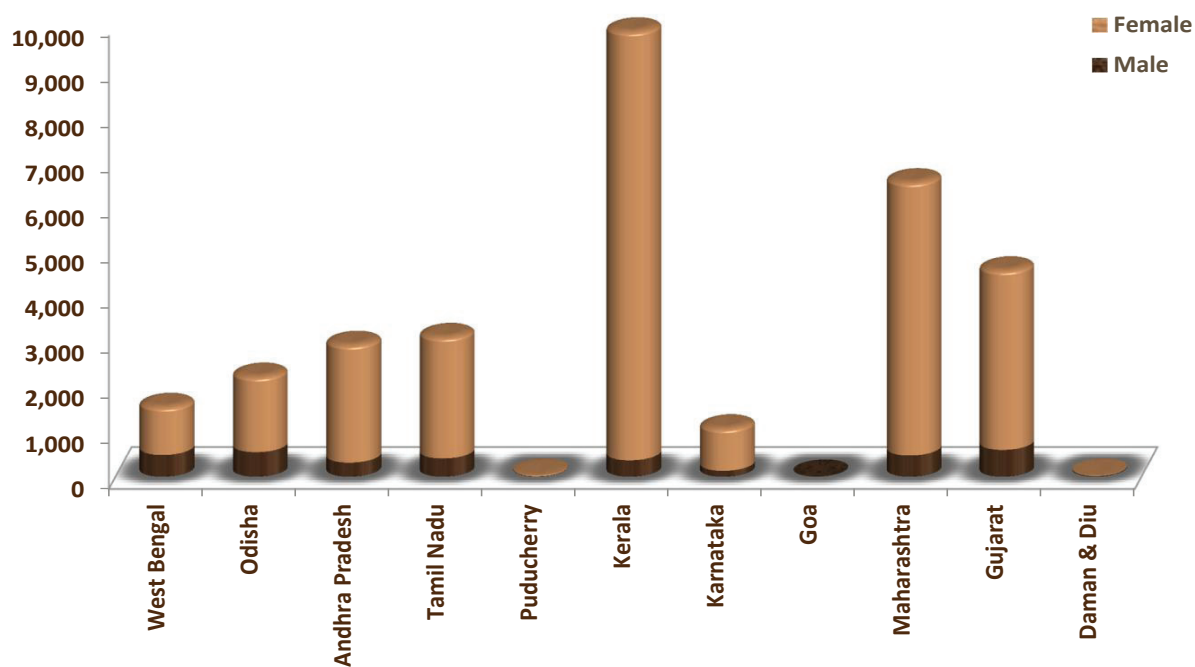
**Fig.21. Gender-wise fishing allied activities - Making/Repairing net**



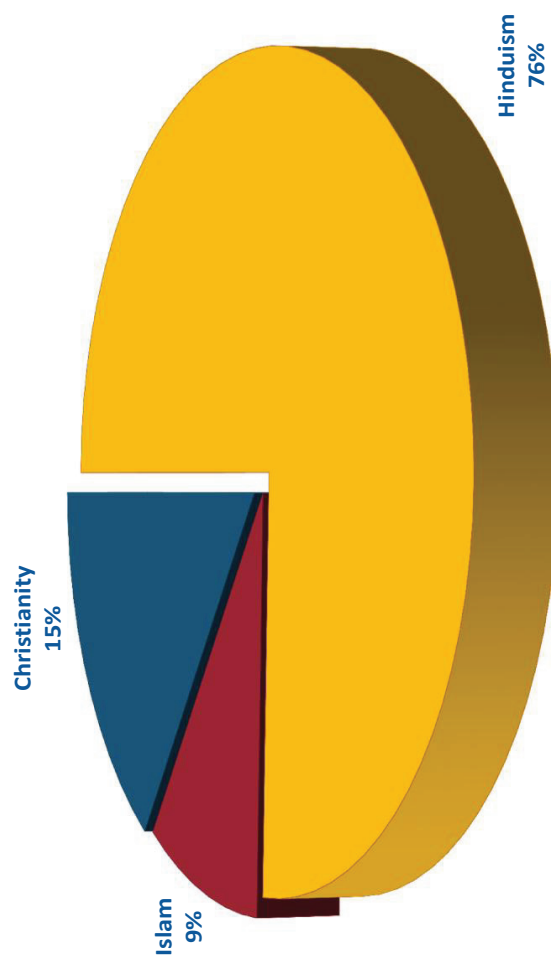
**Fig.22. Gender-wise fishing allied activities -  
Curing and Processing**

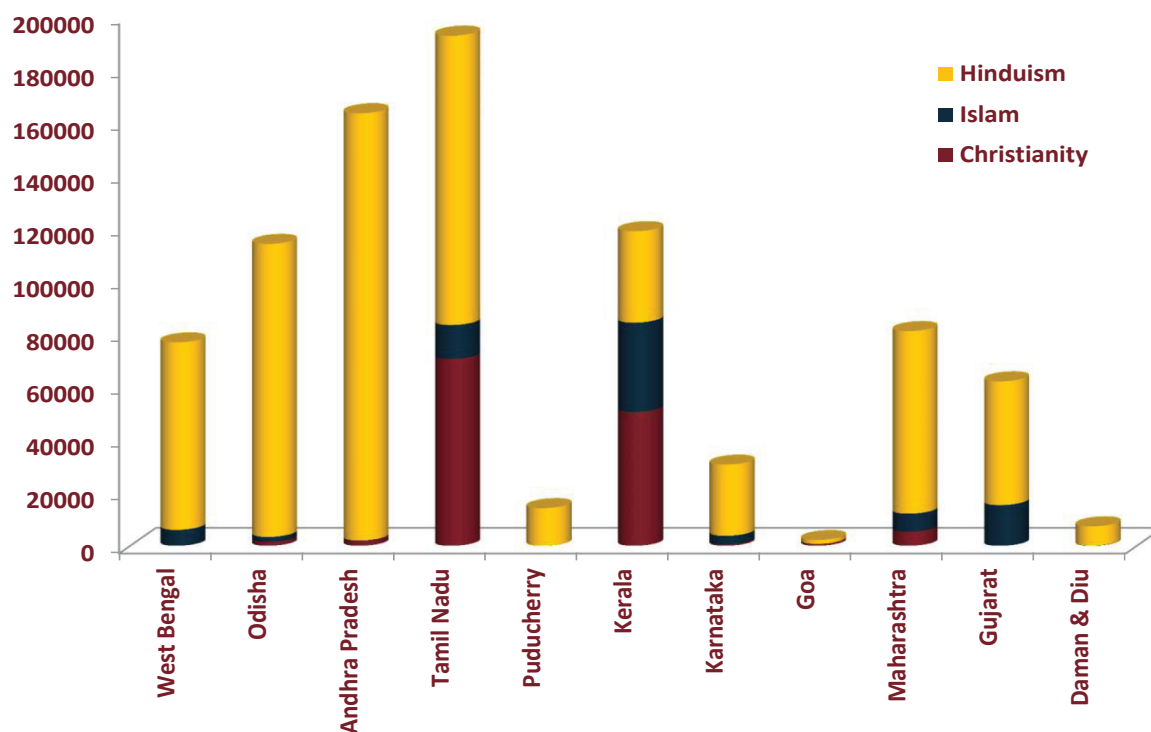
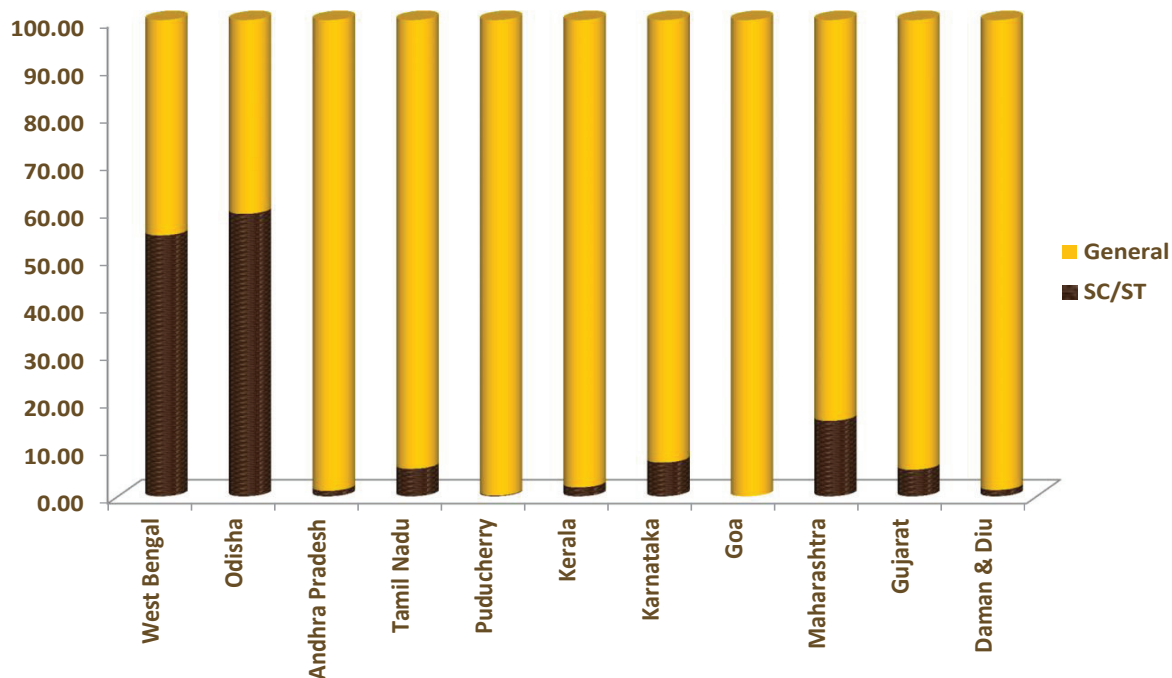


**Fig.23. Gender-wise fishing allied activities -  
Peeling**



**Fig.24. Religious profile of fishermen families**



**Fig.25. Statewise religious affiliation of fishermen families****Fig.26. Profile of SC/ST Households**

**Fig. 27. Craft-fishermen consociation scenario**

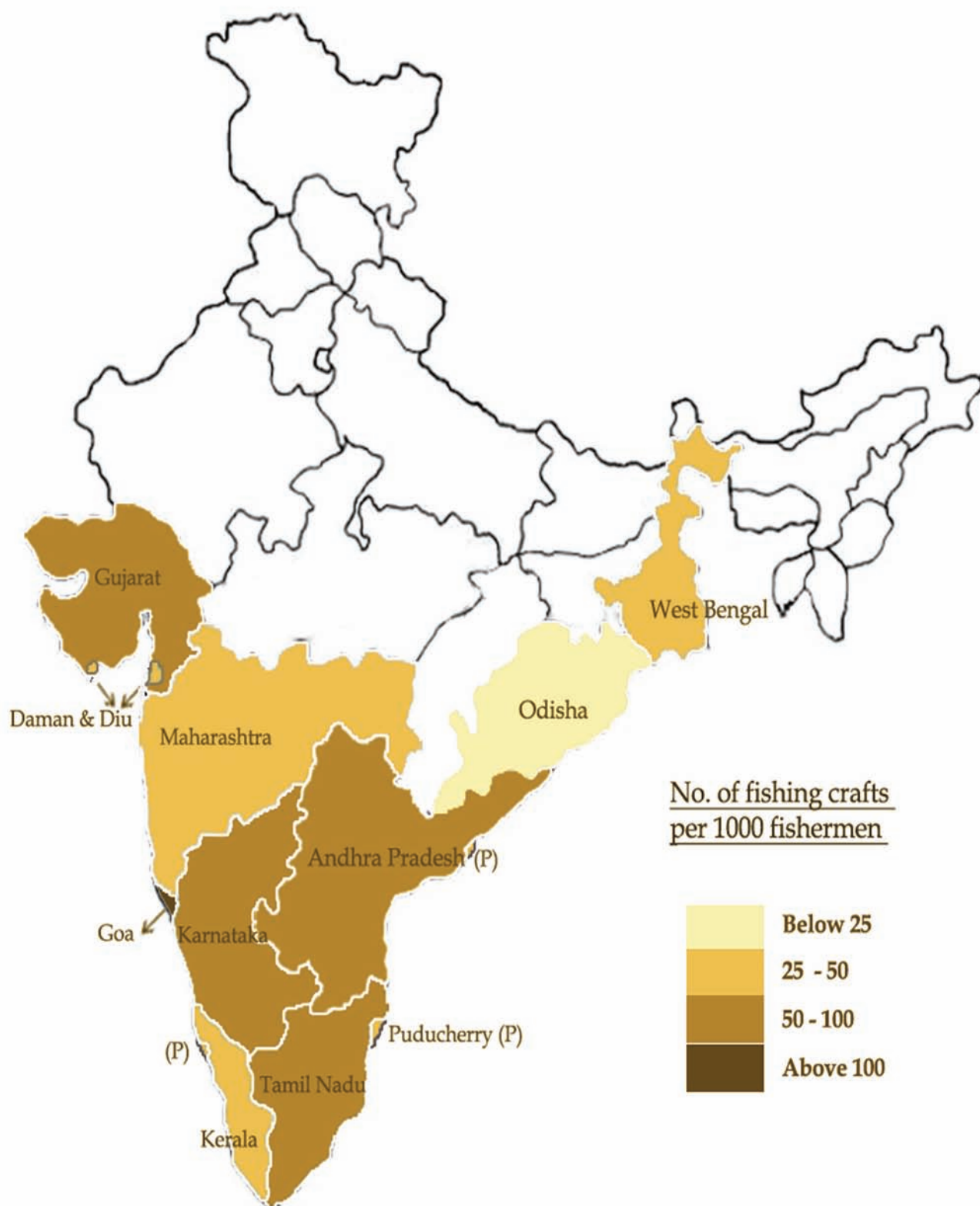


Fig.28. Fishing crafts in the fishery

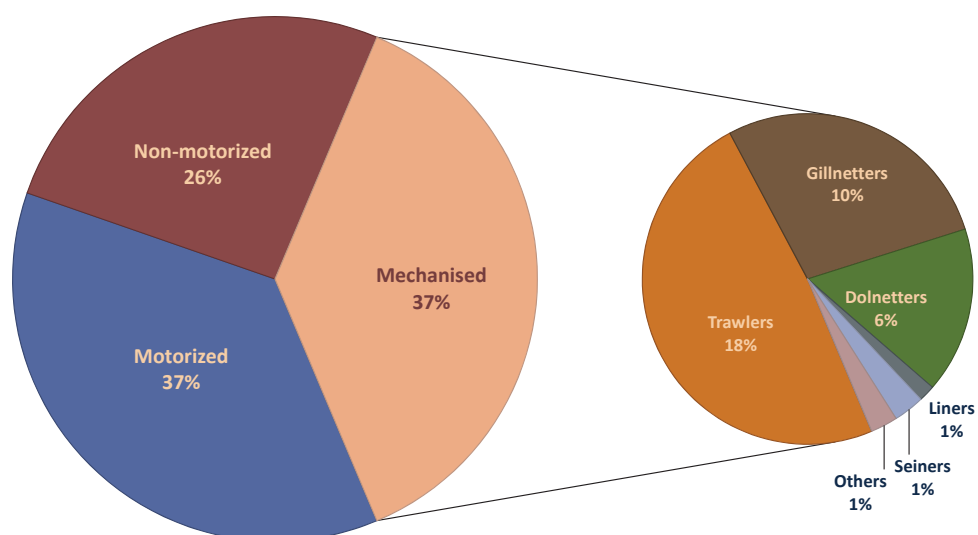
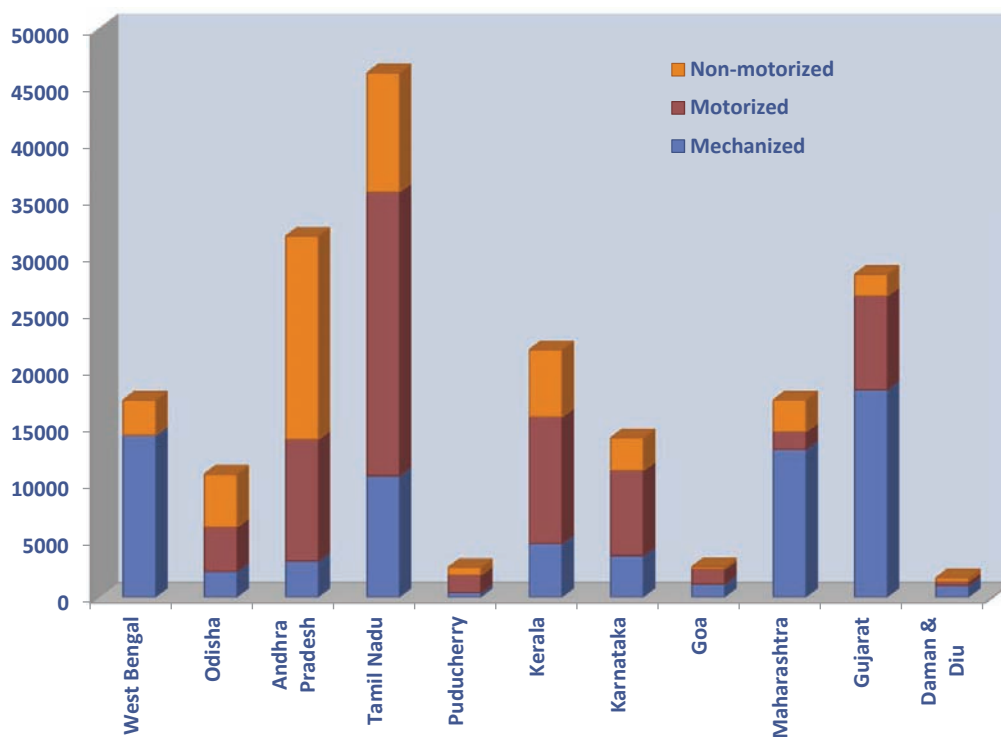
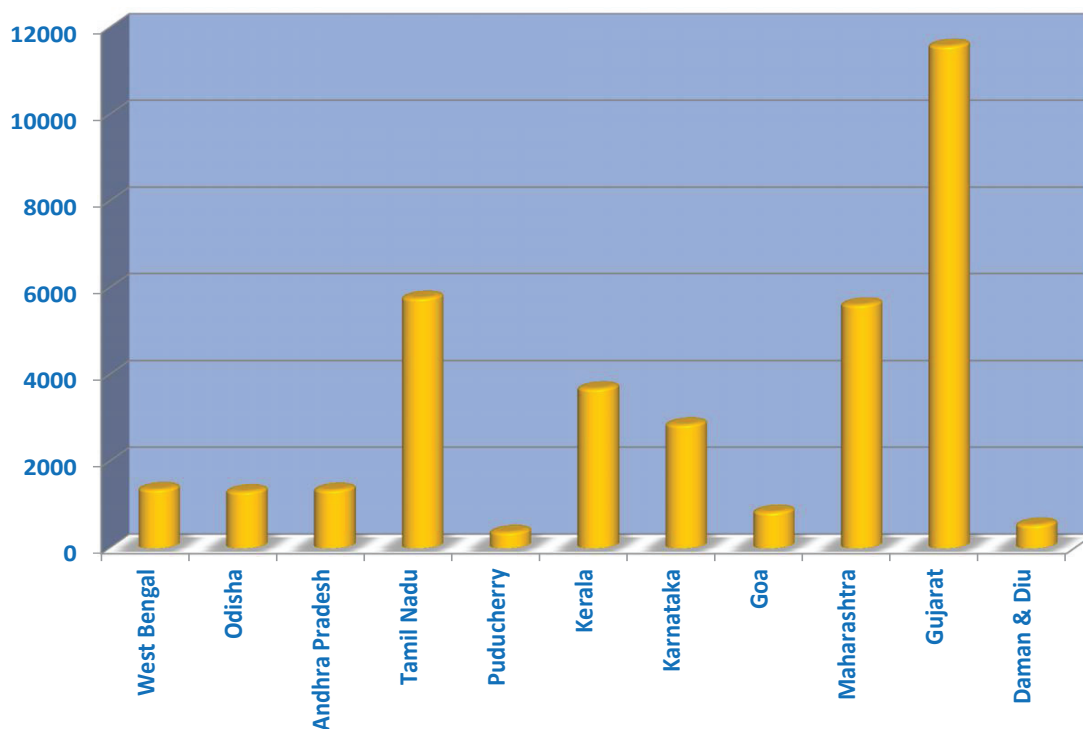
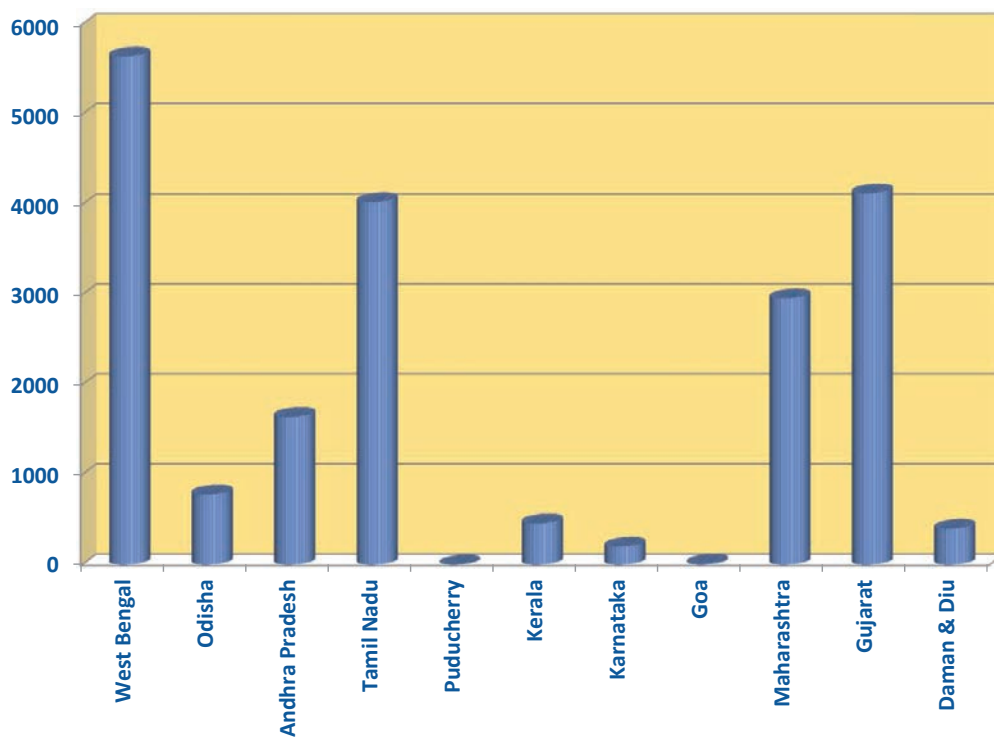


Fig. 29. Statewise fishing crafts in the fishery



**Fig. 30. Trawlers in different maritime states****Fig.31. Gillnetters in different maritime states**

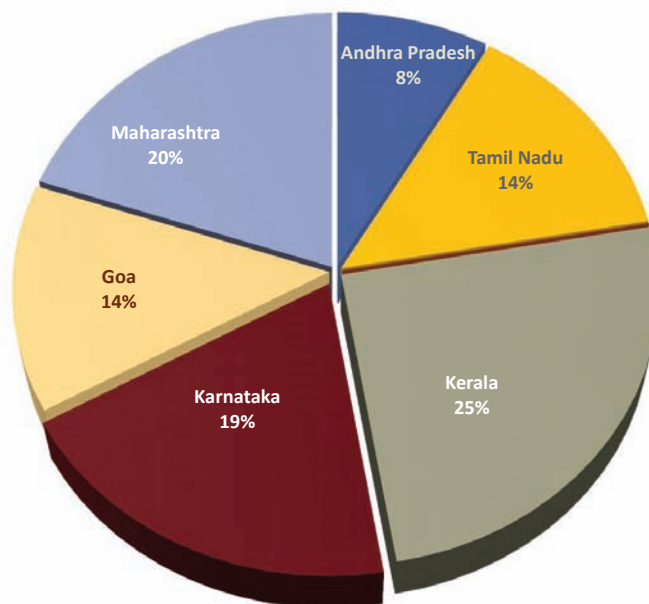
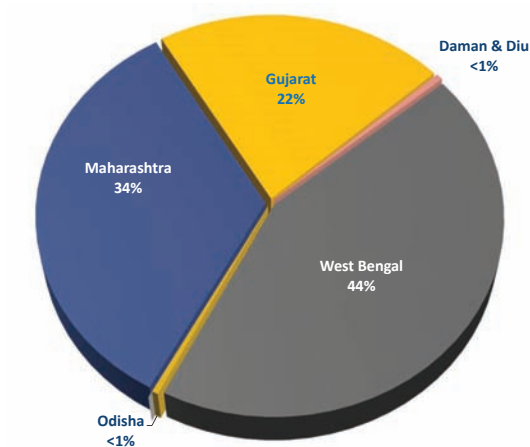
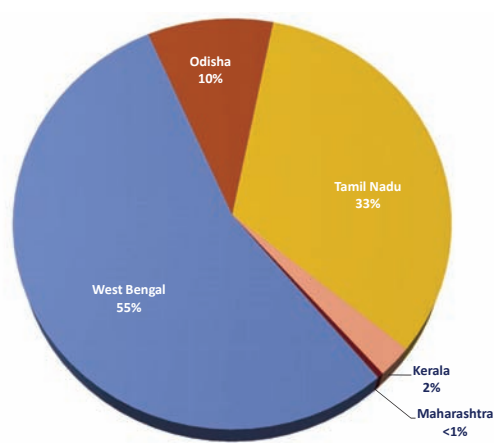
**Fig. 32. Seiners in different maritime states****Fig. 33. Dolnetters in different maritime states****Fig. 34. Liners in different maritime states**



Fig.35. Crafts owned by fisherfolk

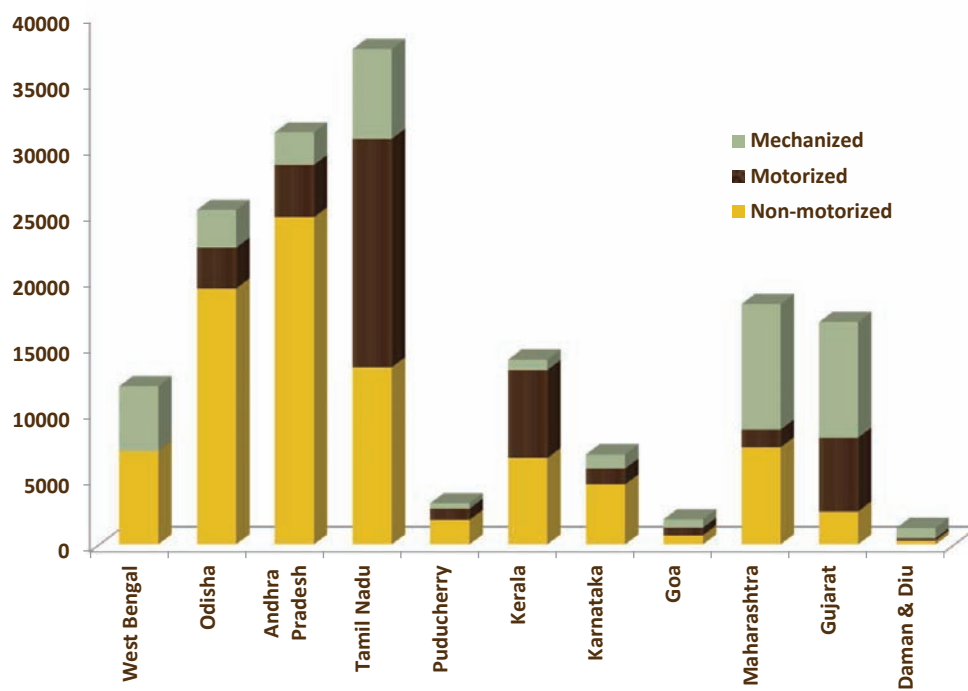
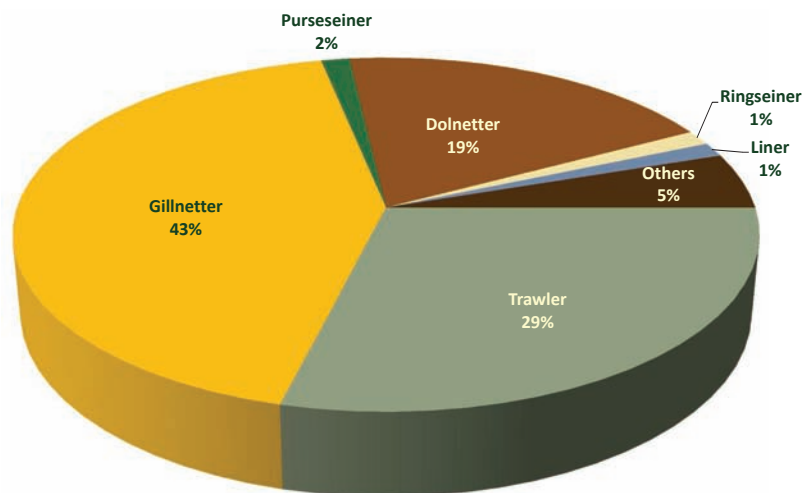
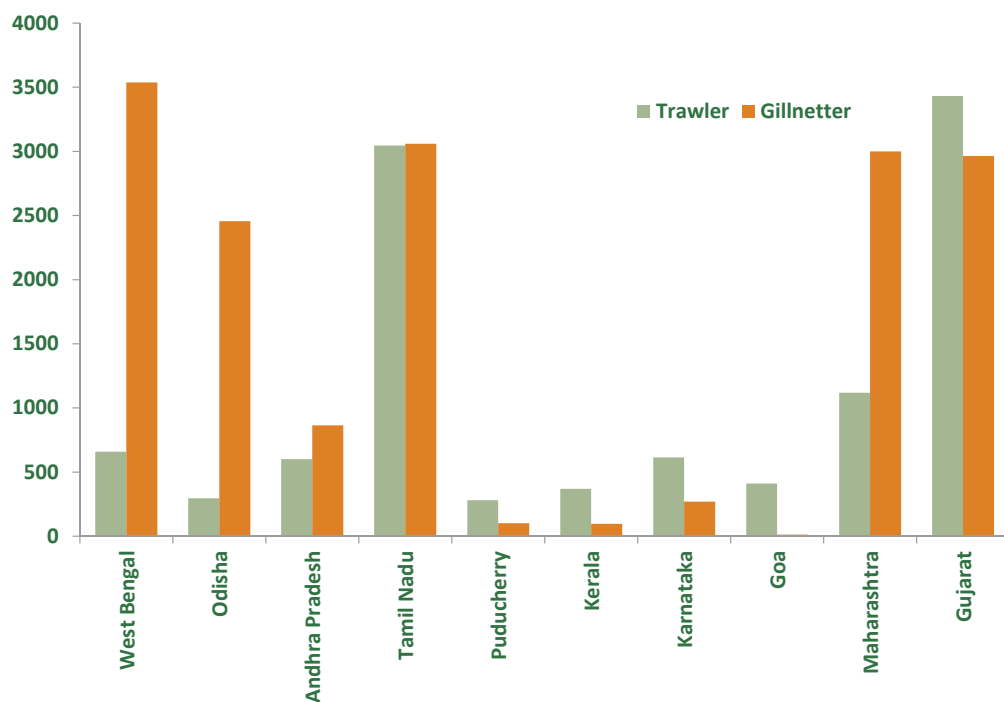
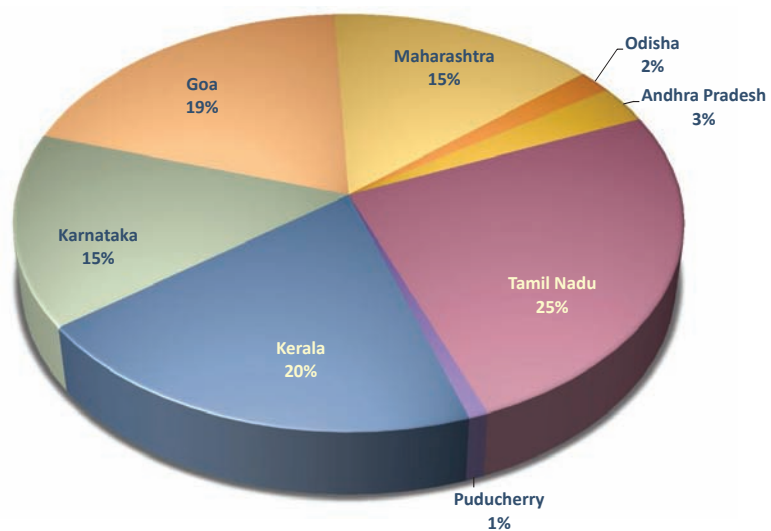
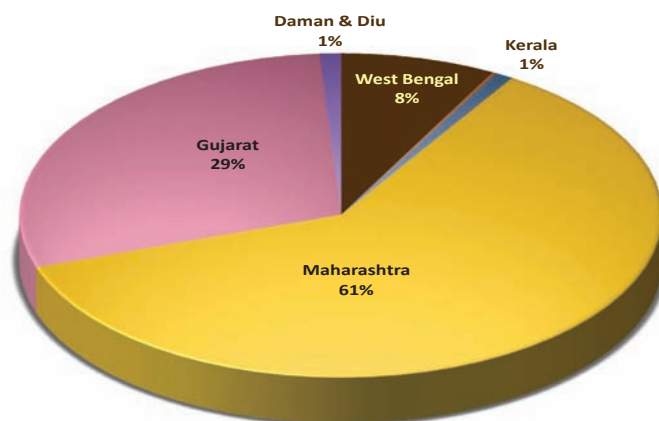


Fig.36. Mechanized crafts owned by fisherfolk

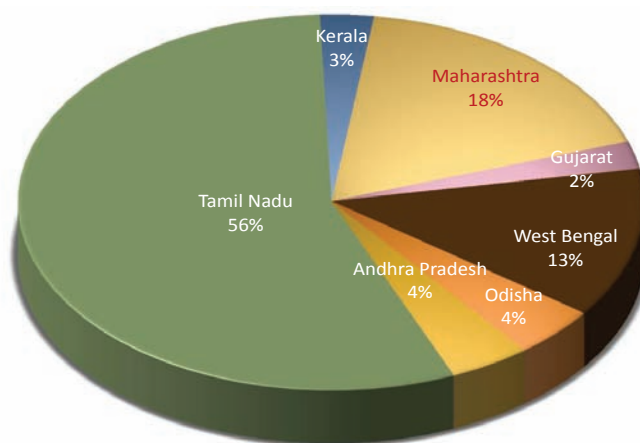


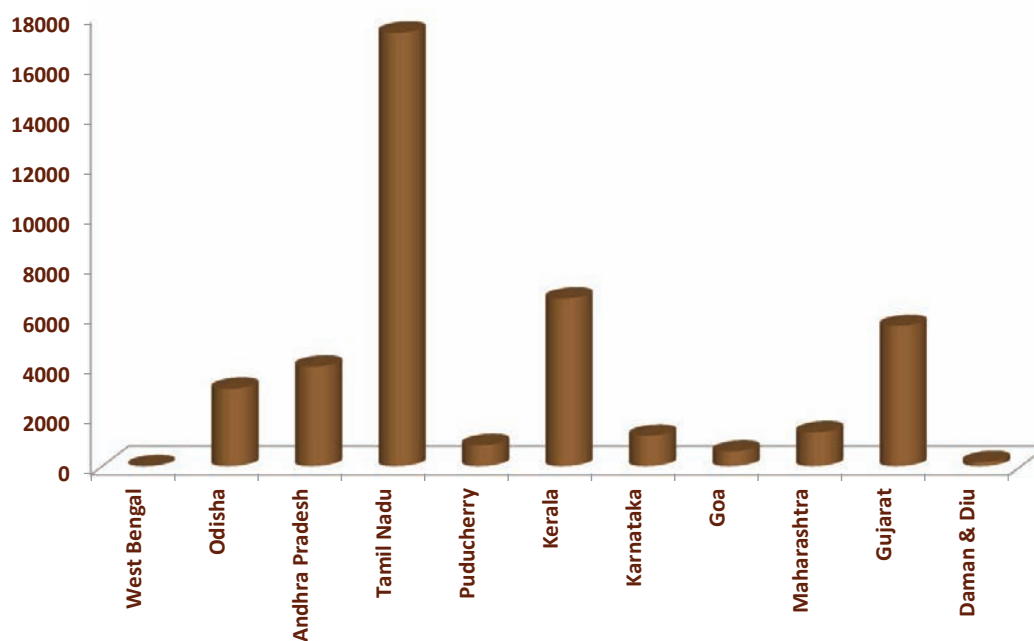
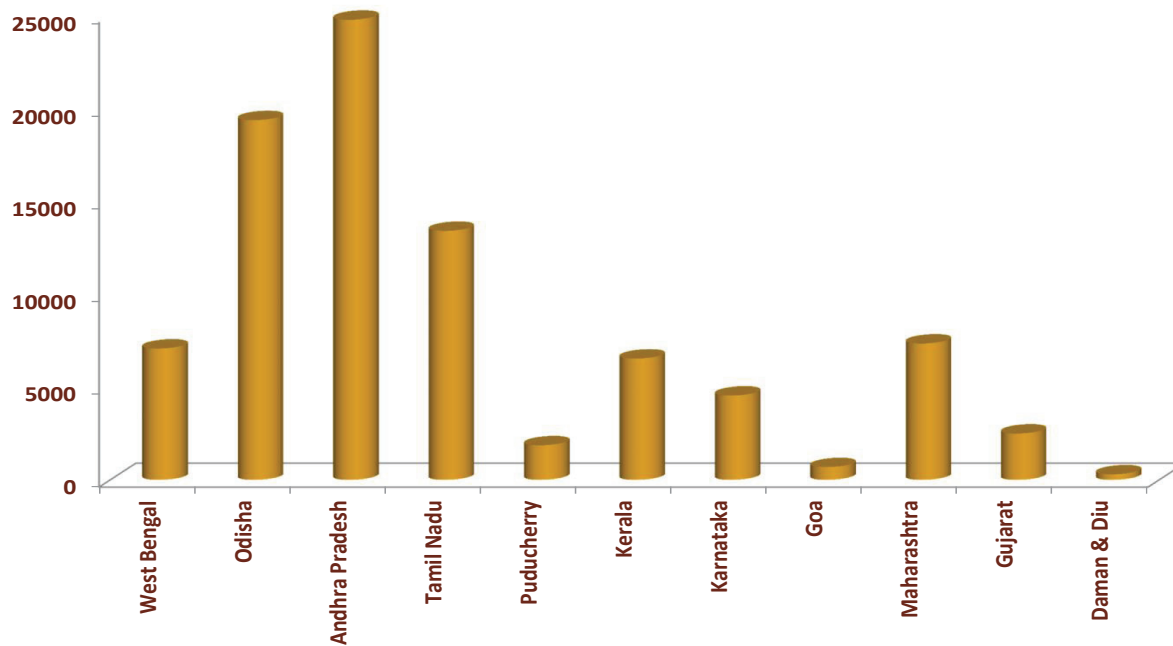
**Fig.37. Trawlers and gillnetters owned by fisherfolk****Fig.38. Seiners owned by fisherfolk**

**Fig.39. Dolnetters owned by fisherfolk**

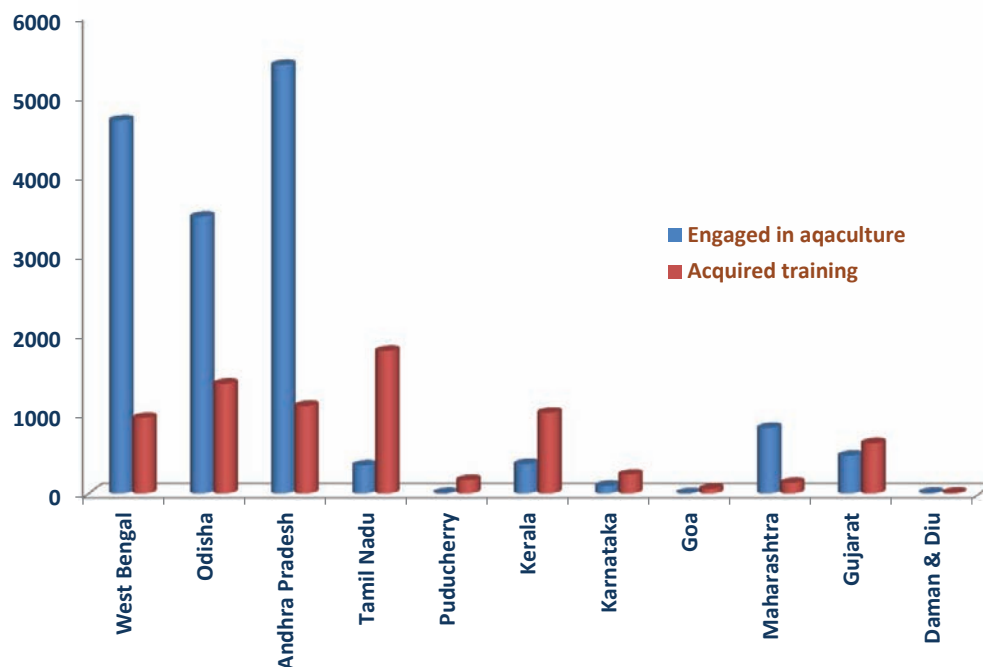


**Fig.40. Liners owned by fisherfolk**

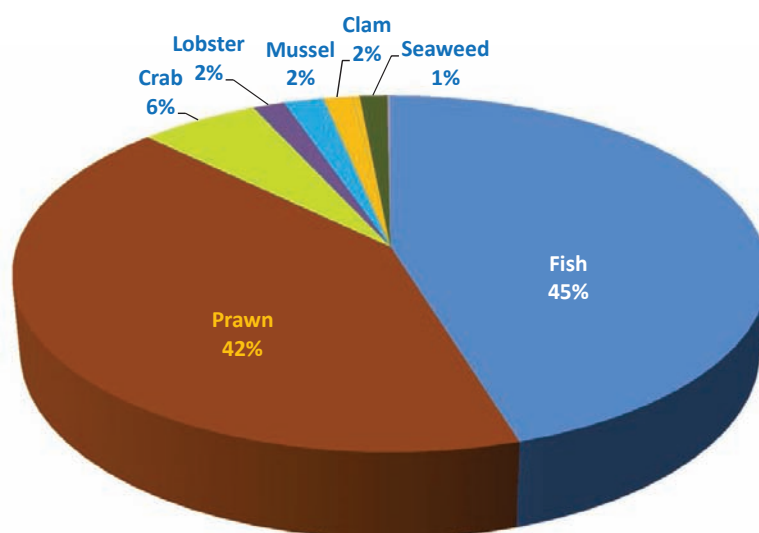


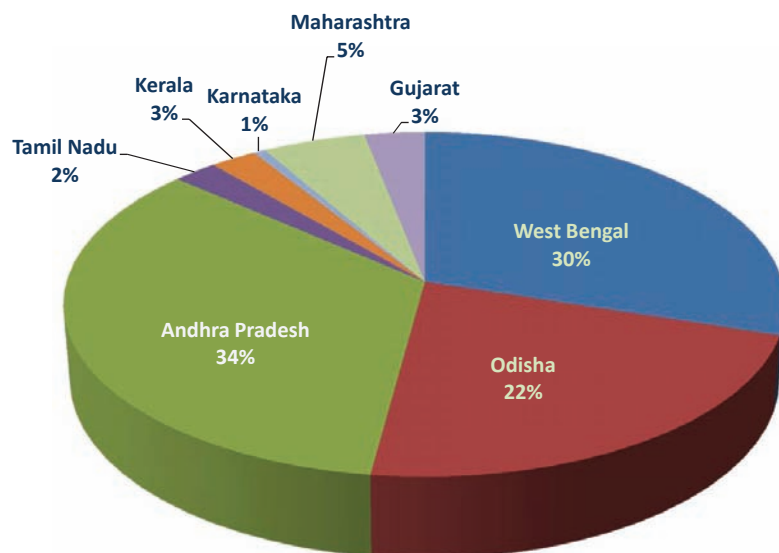
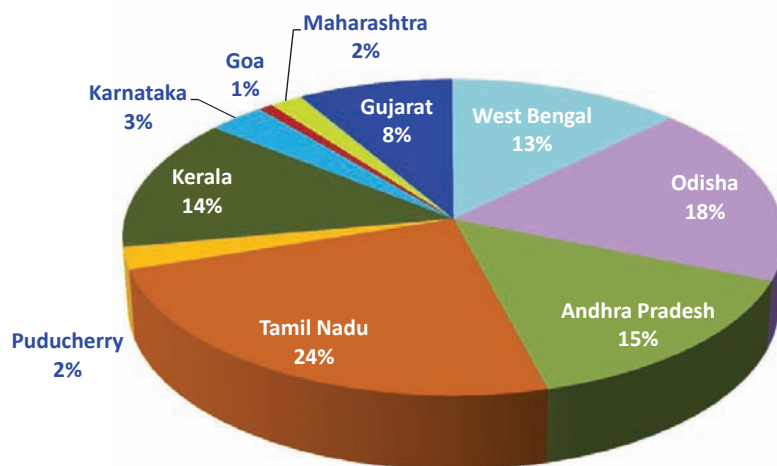
**Fig.41. Motorized crafts owned by fisherfolk****Fig. 42. Non-motorized crafts owned by fisherfolk**

**Fig. 43. Families engaged in aquaculture and acquired training**

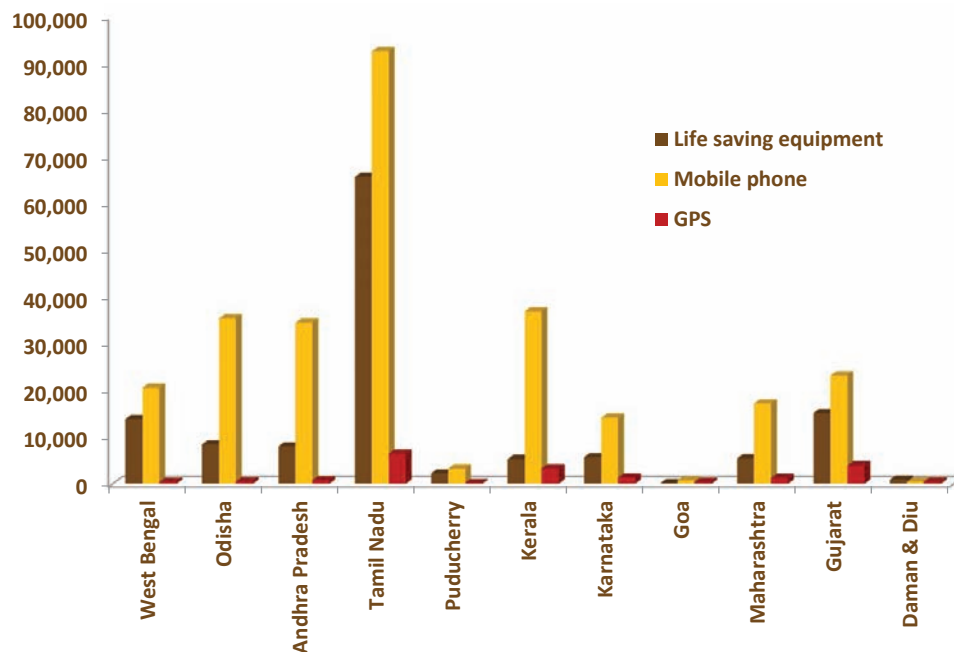


**Fig.44. Different types of aquaculture**

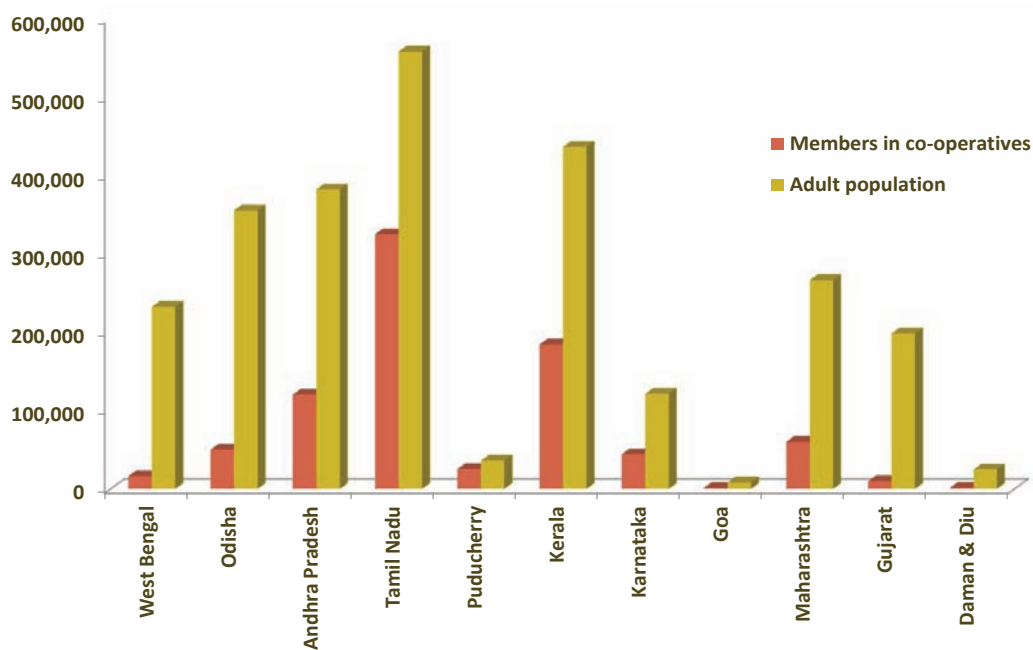


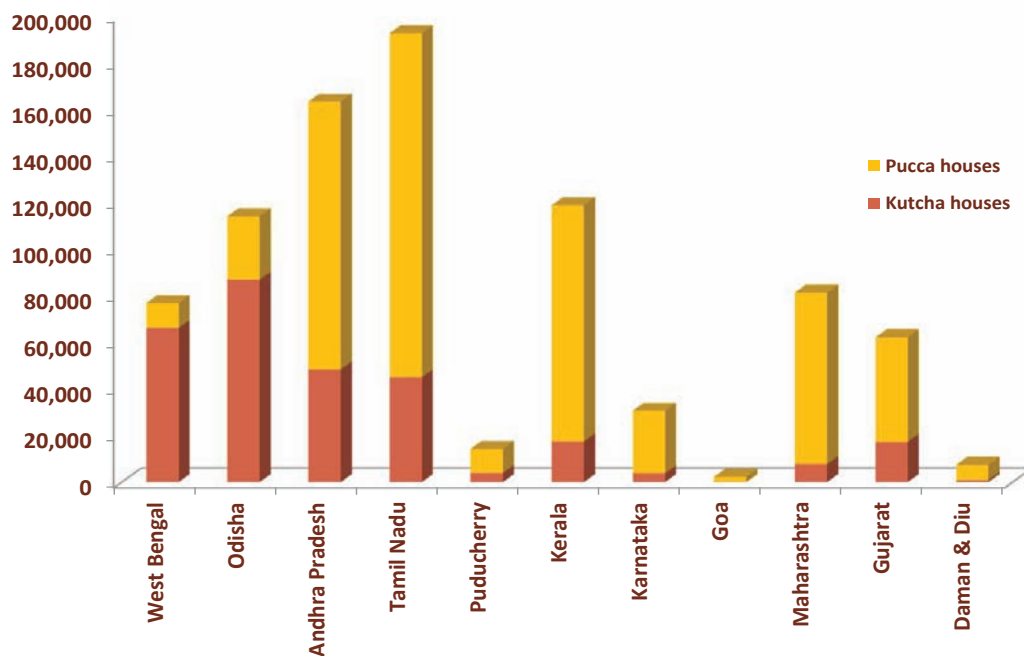
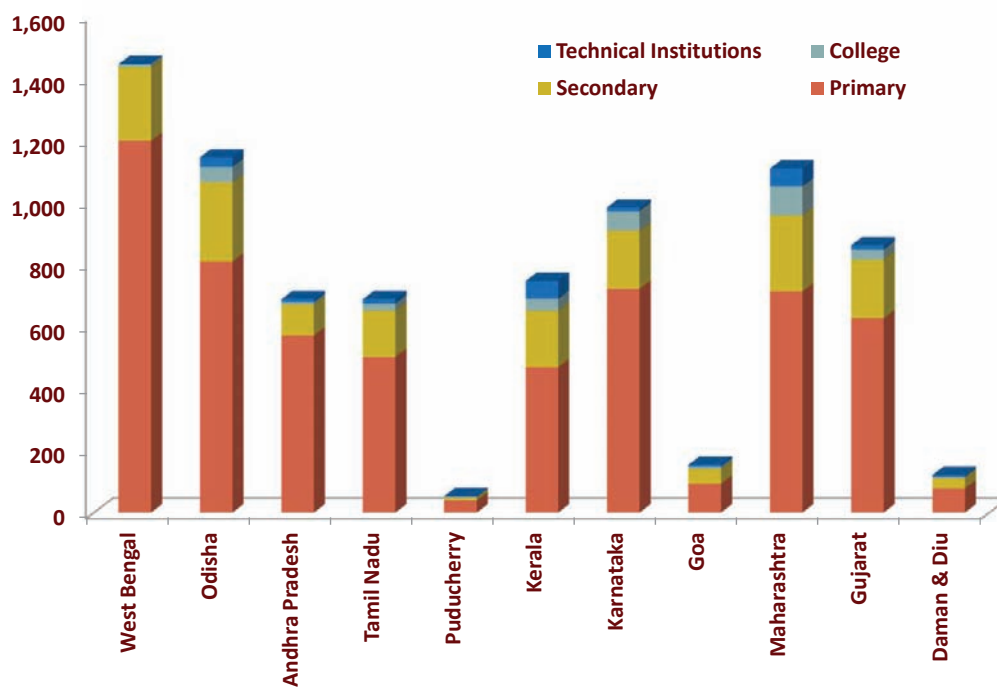
**Fig.45. Aquaculture practices****Fig.46. Acquired training in aquaculture**

**Fig.47. Life saving equipments & electronic gadgets  
(No. of families)**



**Fig.48. Members in co-operatives**



**Fig.49. Infrastructure - Housing****Fig. 50. Infrastructure - Educational Institutions**





## Census Scenes













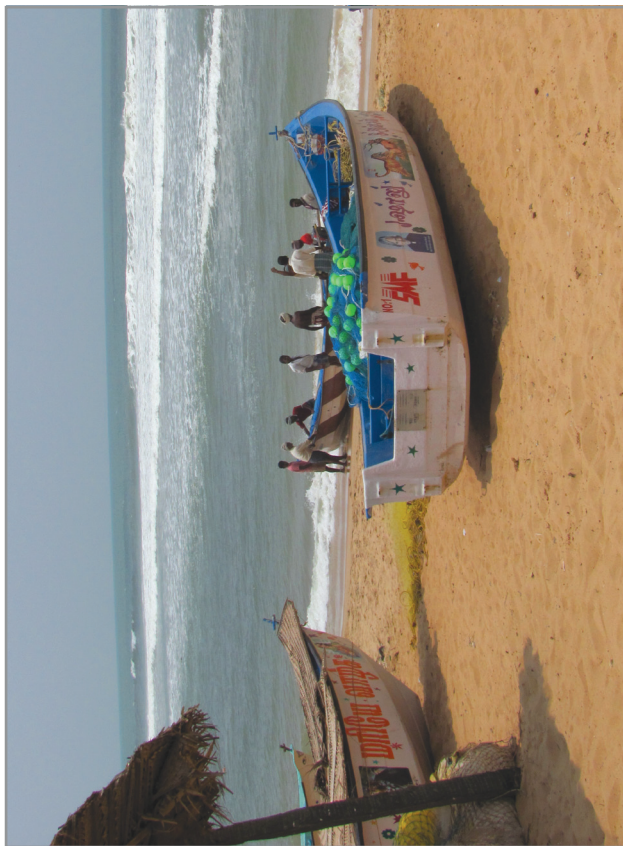
















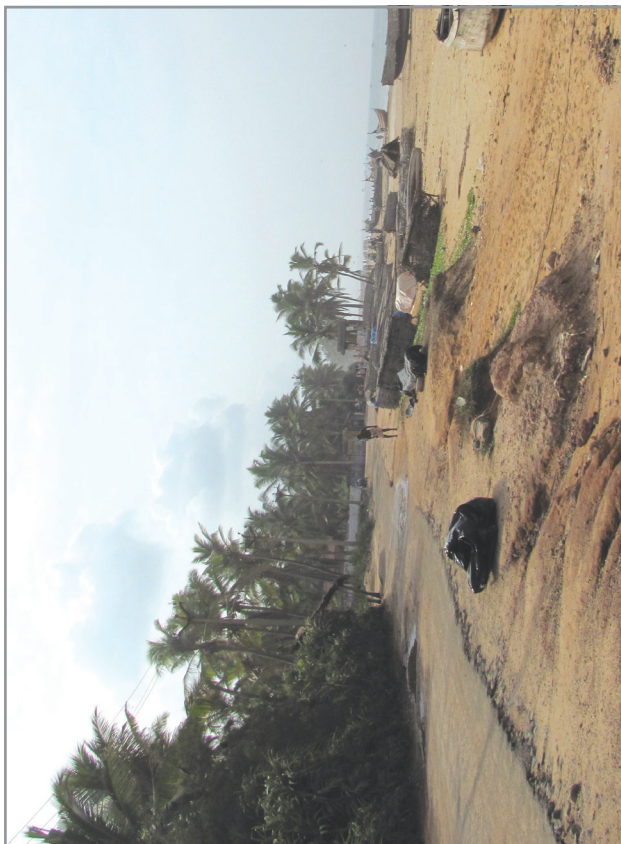












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# Project Personnel

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Formal Inauguration of National Marine Fisheries Census 2010 held at CMFRI, Kochi



Visit of DDG (Fy. Stats.), DAHDF at CMFRI, Kochi during census data processing





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